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C. D. LAING, Sc.

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WILL CLOSE ON THE 27th INSTANT.

SOCIETY of PAINTERS in WATER COLOURS.—The FIFTY-SEVENTH ANNUAL EXHIBITION, at their Gallery, 5, Pall-mall East (Close to the National Gallery), from NINE till DUSK. Admittance, 1s. Catalogue, 6d.

JOSEPH J. JENKINS, Secretary.

THE NEW SOCIETY of PAINTERS in WATER-COLOURS. — THE TWENTY-SEVENTH ANNUAL EXHIBITION IS NOW OPEN. Gallery, 53, Pall-mall West. Admission, 1s.; Catalogues, 6d.; Season Tickets, 5s. JAMES FAHEY.

THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.

Patron, H. R. H. THE PRINCE CONSORT.

PRIZES to ARTIST WORKMEN are now offered for—

STONE CARVING	£10	10	0	and	£5	5	0
Also...	5	5	0	„	3	3	0
MODELLING	3	3	0	„	2	2	0
WOOD CARVING.....	10	10	0	„	5	5	0
METAL WORK	10	10	0	„	6	6	0
Also....	10	10	0	„	5	5	0
PAINTED GLASS	..				5	5	0
COLOURED DECORATION..	5	5	0	„	3	3	0

PORTIONS of any ACTUAL WORK in progress, Prizes according to merit. EXTRA PRIZES and Ten valuable Illustrated Books will also be added; and all deserving specimens will be sent to the International Exhibition of 1862.—For full particulars, apply, by letter, to the Hon. Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.

THE SCIENTIFIC and ENGINEERING SCHOOL, at the COLLEGE, CHESTER.—This School is recognized by the Secretary of State for India "as possessing an efficient Class for Civil engineering." Special attention is also given to practical chemistry. Each pupil is provided with a separate sleeping apartment. Application for admission is to be made to the Rev. ARTHUR RIGG, College, Chester.

THE METROPOLITAN BUILDING ACT, 1855, sec. 33.—The Institute of British Architects hereby give notice that an EXAMINATION of Persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the ROOMS of the INSTITUTE, No. 9, Conduit-street, Hanover-square, W. on THURSDAY, the 25th day of July, at ELEVEN o'clock in the forenoon. Persons desirous to be examined must, on or before THURSDAY, 18th of JULY, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

T. HAYTER LEWIS, } Hon. Secs.
JAMES BELL, }

July 9th, 1861.

INTERNATIONAL EXHIBITION, 1862.

Application having been made for permission to ERECT a TURRET CLOCK over one of the principal entrances to the Exhibition building, notice is hereby given, that her Majesty's Commissioner will be prepared to consider any further application for this privilege, which may be made to them before the 1st AUGUST, 1861.

By order, F. R. SANDFORD.

Offices of Her Majesty's Commissioners, 454, West Strand, W.C.

INTERNATIONAL EXHIBITION, 1862.

Preparing for publication, SOME ACCOUNT of the BUILDINGS DESIGNED by CAPTAIN FOWKE, R.E. for the INTERNATIONAL EXHIBITION, 1862, with Illustrations.

London: CHAPMAN & HALL, and of all Booksellers, and at Railway Stations.

INTERNATIONAL EXHIBITION, 1862.

The TRADES of the UNITED KINGDOM, classified in the Order in which Exhibitors' Productions will be exhibited.—To be had of all Booksellers, and at 454, West Strand, W.C. Price 1s.

COMPETITIONS.

BIRKENHEAD UNION.—To ARCHITECTS.—INTENDED WORKHOUSE for the BIRKENHEAD UNION.—PLANS, SECTIONS, ELEVATIONS, and general SPECIFICATIONS are required for a WORKHOUSE. The proposed new workhouse and other buildings are to be erected on a site near Birkenhead, a plan of which may be seen at the Board-room of the Guardians, Hampton House, Birkenhead. Although the Guardians desire to receive plans and general specifications for a workhouse which shall be capable of accommodating 400 inmates, and which shall admit of extension at some future period, they do not desire to proceed with the erection of the whole of the buildings at once, being restricted in the amount of immediate outlay. It will therefore be more convenient that the plans should be so prepared as to admit of the erection, at different periods, of—

First. The main building, which should be capable of accommodating 200 inmates, viz.:—

Aged men	50
Able-bodied men ..	50
Aged women	50
Able-bodied women	50 (in two distinct classes)
Receiving wards.	
Vagrant wards.	

With suitable store-rooms, yards, and offices.

A dining-hall should also be provided, capable of accommodating 400 persons, apartments for master and matron, servants and porter, a board-room suitable for thirty guardians, clerks' office, and strong closet. The cost of this portion of the building not to exceed 7,000*l.*

Secondly. A Detached Hospital, with fever wards, capable of accommodating fifty males and fifty females; a surgery, nurses' rooms, and suitable offices to be provided. The cost of this building not to exceed 3,000*l.*

Thirdly. Detached Schools, capable of accommodating fifty boys and fifty girls; lavatories, washhouses, and workrooms to be provided, the cost not to exceed 3,000*l.*

The whole of these buildings to be so planned as to admit of easy extension. The sleeping accommodation for the inmates in health to be not less than 30 superficial feet and 300 cubic feet of space for each inmate, and 50 superficial feet and 500 cubic feet for each sick person. There will also be required cisterns for cold water, with the requisite fittings, to receive water from waterworks' mains. A tank underground to store the rainwater from the roofs; to be so placed as to be used in flushing the sewers and drains. The requisite fittings in the lavatories and waterclosets. The house to be provided with open fireplaces, and a complete system of ventilation. The house to be built of partly stone and partly as recommended by the Architect. The whole to be done in a plain, substantial manner. The plans under seal, and endorsed on envelope, "Plan for Workhouse," and having an initial, cipher, or motto thereon, accompanied with a corresponding note from the competitor (also under seal), which shall not be opened until after the plans are adjudicated on, to be sent to the Clerk on or before the 16th day of SEPTEMBER, and the Board of Guardians will adjudicate on the same on the 17th day of SEPTEMBER next. All plans to be drawn to a scale of one-tenth of an inch to a foot, except the block plan, which is to be one-twentieth of an inch to a foot. The architect producing the best plan in the estimation of the Board, will, subject to the approval of the Poor Law Board being obtained to such plan, receive a premium of 50*l.* A second premium of 25*l.* will also be given for the next best plan, both of which to be the property of the Guardians; but should the author of the best plan be employed in carrying out the work, the 50*l.* premium will be deducted from the architect's commission, which will be 5 per cent. on the outlay. The Guardians do not bind themselves to accept any of the plans which may be submitted.—By order of the Board,

PETER GREGORY, Clerk.

Dated the 25th day of June, 1861.

CARLISLE CORN-MARKET COMPETITION.—The Author of the Design signed "Nemo," not having sent in an envelope bearing a corresponding mark, containing the author's name, as required by the conditions of the competition, is hereby requested to SEND in his NAME, accompanied by a description of the plans sent in, as a guarantee of his being the author.

Carlisle, July 10, 1861. J. GORDON, City Surveyor.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for new GROYNES in front of Breakwater at Southsea Castle, near Portsmouth.

Parties desirous to Tender for the erection of these Works, must leave their names at this Office, on or before the 19th day of JULY, 1861, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded, to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, July 3, 1861.

COAST-GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of the Waterloo COAST-GUARD STATION, at Blundell Sands, Crosby, in the county of Lancashire, may inspect the drawings and specifications at the Watch-room, Waterloo; or at this Office, between the hours of TEN and FOUR, from WEDNESDAY, the 10th, to WEDNESDAY, the 24th inst. now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office, not later than TWELVE o'clock at noon of the the 25th JULY, under seal, and directed to the Commodore Controller General of Coast-Guard, and endorsed, "Tender for Waterloo Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 2nd day of July, 1861, at the Admiralty Coast-Guard Office, 12, Spring-gardens, London, S.W.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for RENEWING the SLATING, BOARDING, LEAD WORK, &c. on the Roof of the Convalescent Hospital, at Woolwich.

Parties desiring to Tender for the execution of these works must leave their names at this Office on or before, WEDNESDAY, the 17th day of JULY, 1861, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, June 21, 1861.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for CONVERTING the late ENGINEER YARD at the Royal Artillery Barracks, Woolwich, into a STORE for the Barrack Department.

Parties desiring to Tender for the execution of these Works, must leave their names at this Office on or before the 31st day of JULY, 1851, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, 11th July, 1861.

WAR DEPARTMENT CONTRACTS.—NOTICE to IRONFOUNDERS.—TENDERS are required for SUPPLYING 1,000 FEET lineal of CAST-IRON PIPES, 16 inches diameter in the bore, and 1 inch thick, in 9-feet lengths, with sluice and flap-valves. The pipes to be delivered at Walmer, in the county of Kent.

The specification, with forms of Tender for the above articles, can be obtained on application at the Royal Engineer Office, Dover, from MONDAY, the 15th, to MONDAY, the 22nd of JULY, 1861, Sunday excepted, between the hours of TEN and FOUR.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Dover, 4th July, 1861.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ERECTING a THREE-GUN BATTERY and DEFENSIBLE BARRACK at Exmouth, Devon.

Parties desiring to Tender for the erection of this work must leave their Names at this Office, on or before the 13th JULY, 1861, and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Exeter, 1st July, 1861.

TO BUILDERS and CONTRACTORS.—TENDERS are required for the ERECTION of a FARM-HOUSE, OFFICES, and STABLE, upon a farm at Borough Fen, near Crowland, Lincolnshire, for Robert W. Maxwell, Esq. The drawings and specification can be seen at my Office up to and including the 13th inst. and afterwards at Mr. MAXWELL'S, Borough Fen, near Crowland. Tenders to be delivered at my Offices, as under, on or before WEDNESDAY, 24th inst. at TWELVE o'clock precisely.

SEXTUS DYBALL, Architect and Surveyor.

No. 18, Bucklersbury, Cheapside, E.C.

N.B. The lowest or any Tender will not necessarily be accepted. The site is about 3½ miles distant from the Peakirk Station, Great Northern Railway, and about 8 miles from Peterborough.

HEMEL HEMPSTEAD TOWN-HALL IMPROVEMENTS.—To BUILDERS and OTHERS.—Persons desirous of TENDERING for the ERECTION of the proposed Improvements and additions to the TOWN-HALL, Hemel Hempstead, according to the plans and specification thereof, prepared by Mr. George Low, Architect, of London, are hereby informed that the said drawings, specification, and terms of contract may be inspected at the Offices of Mr. GEORGE LOW, Architect, 10, Basinghall-street, London, E.C. between the hours of TEN and FOUR o'clock, from the 8th to the 17th day of JULY next, inclusive; and at the offices of Mr. S. C. HARRISON, Surveyor, Hemel Hempstead, from the 18th to the 29th of JULY next, inclusive, between the hours of TEN and SIX o'clock. Tenders, under seal, to be delivered at the Town Hall, Hemel Hempstead, on or before TWO o'clock, on WEDNESDAY, the 31st day of JULY next, and then and there be opened and declared in presence of all parties then attending, interested therein.

THOMAS WOODMAN, Jun. Bailiff.

Hemel Hempstead, July 4th, 1861.

N.B. The Bailiff does not pledge himself to accept the lowest, or any Tender.

TO BUILDERS.—Persons willing to TENDER for BUILDING a PAIR of semi-detached VILLAS, at Windsor, can inspect the plans and specification on and after MONDAY, JULY 22nd, at the Architect's Office, who reserves the right of rejecting the lowest or any Tender. Tenders to be delivered AUGUST 5th, FOUR o'clock punctually.

HENRY McCALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton-square.

TENDERS WANTED.—TENDERS are wanted for the various WORKS in the ERECTION of the PERTHSHIRE DISTRICT LUNATIC ASYLUM, near Murthly Station, on the Dunkeld Railway. The plans and specifications may be seen in the hands of Mr. P. SOUTAR, Clerk to the Lunacy Board, Perth; or Messrs. EDWARD & ROBERTSON, Architects, Reform-street, Dundee; who will give all requisite information. Offers may be lodged either with Mr. SOUTAR or Messrs. EDWARD & ROBERTSON, on or before 20th JULY next. The Board are not bound to accept the lowest or any Tender.

Perth, 27th June, 1861.

[For remainder of Contracts see next page.

CONTRACTS.

TO BUILDERS and CONTRACTORS.—The Town Council of the Borough of Great Grimsby, in the County of Lincoln, are prepared to receive TENDERS for the erection of a new TOWN HALL, proposed to be built on a site situate on the six acres, in Great Grimsby. Contractors may inspect the drawings and specifications by applying at the office of Mr. MAUGHAN, Surveyor, Great Grimsby, between the hours of TEN a.m. and FIVE p.m. on and after WEDNESDAY, the 17th instant, until and including SATURDAY, the 3rd of AUGUST next, on which latter day sealed Tenders are to be delivered at my Office, endorsed "Tenders for New Town Hall." Any further information can be obtained from Messrs. BELLAMY & CO. Architects, Lincoln; or Mr. J. FOWLER, Architect, Louth. The Corporation will not be bound to accept the lowest Tender.—By order,

W. GRANGE, Town Clerk.

Town Clerk's Office, Great Grimsby, July 10, 1861.

TO BUILDERS and OTHERS.—Persons desirous of sending in TENDERS for the RESTORATION of WESTFIELD CHURCH (and ADDITIONS thereto), near Hastings, Sussex, can see the plans and specifications at the Rev. M. H. VERNON'S, Vicar of Westfield, aforesaid; or at my Offices in Bath, on and after MONDAY, JULY 22.—Tenders to be sent to my Office, endorsed "Tenders for Westfield Church," not later than WEDNESDAY, JULY 31.—The lowest or any Tender will not necessarily be accepted.

CHARLES E. DAVIS, F.S.A.

3, Westgate-buildings, Bath, July 10. 1861.

TO BUILDERS.—CARSHALTON GAS-WORKS.—TENDERS are required for BUILDING a new COAL-STORE, ENLARGEMENT of RETORT-HOUSE, and MANAGER'S RESIDENCE. Plans and specification are lying for inspection at the works. Tenders, endorsed "Tender, Carshalton Gas-works," to be delivered to me on or before SATURDAY, JULY 20th, inst. The directors, however, do not pledge themselves to accept the lowest or any Tender. EDWIN CHART, Surveyor.

Mitcham, S.

TO WELL-SINKERS and OTHERS.—The Committee for the erection of a Pauper Lunatic Asylum for the City of London hereby give notice that they will meet at Guildhall, London, on MONDAY, the 15th day of JULY instant, at ONE o'clock in the Afternoon precisely, to receive TENDERS for the SINKING of a WELL, at Stone, near Dartford, Kent. For specifications, forms of Tender, and all further particulars, apply at the Architect's Office, Guildhall. The Committee will not consider themselves bound to accept the lowest or any Tender. WOODTHORPE.

LIVERPOOL CEMETERY, ANFIELD-PARK, WALTON.—Builders desirous of TENDERING for the ERECTION of Three CHAPELS in the above Cemetery are requested to send their names to the Architects, Messrs. LUCY & LITTLER, Burial Board Offices, 12, Clayton-square, Liverpool, on or before the 18th of JULY instant.

9th July, 1861.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of STABLING, to be built in Peckham, can inspect the plans and specifications at the house of Mr. JOHN BERRIMAN, Surveyor, No. 1, Alexander-terrace, Queen's-road, Peckham, on TUESDAY and WEDNESDAY, July 16th and 17th, 1861, between the hours of TEN and FOUR o'clock.—The proprietor will not be bound to accept the lowest Tender. Quantities to be furnished.

TO BUILDERS and CONTRACTORS.—The LION HOTEL, Leominster.—The plans and specifications for ALTERING and CONVERTING these PREMISES to other purposes, can be seen by persons desirous of submitting TENDERS, on and after WEDNESDAY, 3rd JULY, on application to Mr. ALEXANDER, Ironmonger, Leominster, and any further information can be obtained from the Architect. The Tenders are to be delivered to the Architect on WEDNESDAY, the 17th of JULY, and no pledge is given to accept the lowest.

THOS. NICHOLSON, F.I.B.A. Architect.

Hereford, 27th June, 1861.

ROADS.—The Proprietors of the Percy Gardens Estate, Tottenham, are prepared to receive TENDERS for MAKING, GRAVELLING, and COMPLETING about 600 yards of new ROADS.—Plans and specifications to be seen on application to P. P. MARSHALL, C.E. Lower Tottenham, to whom sealed Tenders must be addressed on or before FRIDAY, the 12th instant.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of the MIDDLESEX SOCIETY'S SCHOOLS, and MASTER'S RESIDENCE, Cannon-street-road, St. George-in-the-East, can see the drawings and specification at the offices of the Architect, between the hours of TEN and FOUR. Tenders to be delivered at the School House, Cannon-street-road, on or before AUGUST the 6th, at SIX o'clock p.m. The Trustees do not bind themselves to accept the lowest or any Tender.

126, Cannon-street-road, E. ANDREW WILSON, Architect.

NEWLAND CHURCH, near Coleford, Gloucestershire.—Persons desirous of TENDERING for the RESTORATION, may see the plans, specifications, and particulars, in the Church Vestry-room, on and after MONDAY, the 15th.—Sealed Tenders to be sent in to the Secretary, the Rev. WILLIAM JAMES, at Newland, by or before ELEVEN o'clock, on TUESDAY, the 6th of AUGUST next.—The Committee do not pledge themselves to accept the lowest Tender. WILLIAM WHITE, Architect.

30A, Wimpole-street.

TO BUILDERS and CONTRACTORS.—WANTED, TENDERS for the ERECTION of a SET of FARM-BUILDINGS on the Estate of the Right Honourable Lord Bagot, at Newton, near Abbot's Bromley, in the county of Stafford. Plans and specifications may be seen, after JULY 17th, on application to T. PICKERING, Esq. Abbot's Bromley; and quantities obtained from Mr. BALAM, 10, Buckingham-street, Strand, London. Sealed Tenders must be sent to Messrs. J. & J. GIRDWOOD, Farm Architects, 49, Pall-Mall, London, on or before JULY 31st. The lowest or any Tender will not necessarily be accepted.

SEAFORD, near NEWHAVEN, SUSSEX. Builders desiring to TENDER, with suitable references, and also security, if required, for the WORKS to be done in RESTORING and ENLARGING the PARISH CHURCH, are requested to communicate their names and addresses, by the 17th instant, to the Architect, Mr. JOHN BILLING, 12, Abingdon-street, Westminster, S.W.

July 11, 1861.

DRAYTON, near Wallingford, Berks.—Builders desiring to TENDER, with suitable references, and also security, if required, for the Works to be done in ERECTING a PARSONAGE-HOUSE and OFFICES, are requested to communicate their names and addresses, by the 17th instant, to the Architect, Mr. JOHN BILLING, 12, Abingdon-street, Westminster, S.W.

July 11, 1861.

NOTICE to BUILDERS.—The TIME for receiving TENDERS for the WORKS to be executed at Kidderpore Hall, Hampstead, for C. Cannon, esq. is EXTENDED to THURSDAY, AUGUST 1st, FOUR o'clock. Owing to several additions having been made to the farm buildings, the drawings and specification will not be ready for inspection till WEDNESDAY, 17th JULY. The lowest or any Tender not necessarily accepted.

HENRY McCALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton-square, S.W.

THE Churchwardens of Rotherhithe are willing to receive TENDERS for TAKING DOWN and RE-ERECTING the SPIRE of the PARISH CHURCH, and RE-BUILDING the North WALL of the Churchyard. The specification and plans may be seen upon application at my Offices, No. 61, Paradise-street, Rotherhithe, where full particulars can be obtained. Tenders are to be delivered, as above, on or before the 25th JULY instant. The Churchwardens do not bind themselves to accept the lowest or an Tender. R. SHAFTO HAWKS, Vestry Clerk.

July 9, 1861.

SEWERAGE WORKS at HAMPSTEAD. The Vestry of the parish of Saint John, Hampstead, in the County of Middlesex, hereby give notice that they will be ready at the Vestry, to be held at the Board-room at Hampstead Workhouse, on FRIDAY, the 19th day of JULY instant, at HALF-PAST SEVEN o'clock in the Evening, precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for the LAYING DOWN, CONSTRUCTING, and COMPLETELY FINISHING certain intended BRICK and PIPE SEWERS, 7,966 feet in length, or thereabouts, with other Works in connection therewith, in the London-road, Park-road, England's-lane, Upper Park-road, Haverstock-terrace, Belsize-lane, Pond-street, Downshire-hill, and Downshire-hill Mews, in the said parish, and for the maintenance of such Works in complete repair for twelve calendar months. Plans, sections, and a specification of the Works, together with the form of Tender, may be inspected, and copies of Tender and specification may be had on payment of five shillings per copy, and other particulars obtained at the Surveyor's Office, New-end, Hampstead, between the hours of TEN a.m. and FOUR p.m. Sealed Tenders in the printed form only, addressed to the Vestry Clerk, must be delivered at the Vestry Offices, on or before FRIDAY, the 19th instant, not later than SEVEN o'clock p.m. of that day, after which hour no Tender will be received. The attendance at the Vestry of the party tendering, or of some competent person on his behalf, will be required. The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two approved sureties to be bound with the Contractor in a joint and several bond in such sum as the Vestry may determine for the due performance of the Contract.

THOMAS TOLLER, Vestry Clerk.

Vestry Office, Hampstead Workhouse, 10th July, 1861.

TO ARCHITECTS and LANDSCAPE GARDENERS.—The Rugby Burial Board hereby give notice, that they are prepared to receive PLANS and SPECIFICATIONS with TENDERS:—

1st. For Laying Out and Planting the proposed New Burial Ground at Rugby, containing 7a. 3r. 2p.

2nd. For the Erection of Two Chapels, Entrance Lodge, Dead House, and Fencing.

A plan of the ground may be seen, and instructions as to the requirements of the Board, may be obtained at the Office of the Board. The plans and specifications may be either for laying out and planting the ground, or for the above buildings and fencing, or may combine both, but the Board reserve the right to select either the plan for laying out the ground, or the plan for the erection of the buildings, or the plan combining both, at their discretion.—Plans and specifications, with separate Tenders, are requested to be sent in to the Office of the Board, Chapel-street, Rugby, on or before the 31st day of AUGUST next.—By order of the Board,

Rugby, July 6, 1861. C. E. WRATISLAW, Clerk.

LIVERPOOL WELLINGTON TESTIMONIAL.—The Committee for the erection of the above Testimonial are prepared to receive TENDERS for a STATUE of the DUKE of WELLINGTON, not less than 12 feet in height, to be executed in bronze, and to be placed on the top of the column now in course of erection in Liverpool. Each party Tendering to submit with their Tender a Model one-fourth of the full size of the statue they propose to erect. Separate Tenders will be required, one inclusive and one exclusive of the Metal; and the time required for executing the Work to be stated by the parties Tendering. The necessary scaffolding for the erection of the Statue will be provided by the Contractors for the Column now erecting. Sealed Tenders, properly endorsed, addressed to JOHN TORR, Esq. Secretary, 13, Exchange Buildings, Liverpool, on or before TWELVE o'clock on TUESDAY, the 6th AUGUST next. The Committee do not bind themselves to accept of the lowest or any Tender.

Liverpool, 6th July, 1861.

TO CONTRACTORS.—RYDE WATER-WORKS.—The Ryde Commissioners hereby give notice, that they are prepared to receive TENDERS from competent persons who may be willing to undertake any of the following Contracts:—

CONTRACT No. 1.—Buildings and reservoir.

CONTRACT No. 2.—For taking down and refixing a steam-engine and boiler, making and fixing a new boiler and set of pumps, connecting gearing to present pumps, and other works.

CONTRACT No. 3.—For the supply of about 2,600 yards of 8-inch socket-pipes.

CONTRACT No. 4.—For the laying down of the same.

Plans, specifications, and conditions can be seen at my Office, at the Town Hall, Ryde; or at Messrs. EASTON, AMOS, & SON'S, Grove, Southwark. Separate Tenders for each of the above Works to be sent to me, on or before the 25th JULY instant. No pledge is given to accept the lowest or any Tender.—By order of the Commissioners,

Town Hall, Ryde, July 10, 1861. W. H. PULLEN, Clerk.

BUILDERS desirous of TENDERING for the ERECTION of a WESLEYAN CHAPEL, proposed to be built at Stretford, Lancashire, may see the drawings, specification, and conditions of contract, and obtain a copy of the bill of quantities at the Office of Mr. HENRY FULLER, Architect, 28, Cooper-street, Manchester, between the hours of TEN and FIVE, on and after TUESDAY, JULY 16th. The Tenders to be delivered to Mr. SAMUEL McCOY, 4, Chapel square, Birchin-lane, Manchester, by NOON, on WEDNESDAY, JULY 24th. The Trustees reserve the right of declining the whole or of accepting any of the Tenders submitted, and will require security.

COUNTY and CITY of WORCESTER LUNATIC ASYLUM.—To BUILDERS and CONTRACTORS.—The Committee of Visitors are desirous of receiving TENDERS for the ERECTION of a NEW WING to the above Asylum, to accommodate 100 patients.

Plans and specifications may be seen on application to MARTIN CURTLER, Esq. Solicitor, Sansome-place, and any further information that may be required, may be had by applying to Mr. H. ROWE, the Architect, 17, Foregate-street, Worcester. Sealed Tenders (endorsed Tender for New Wing), must be delivered (free of cost), at the Office of MARTIN CURTLER, Esq. Sansome-place, Worcester, on or before FRIDAY, the 2nd of AUGUST next.—The Committee will not necessarily accept the lowest Tender.

Worcester, June 25, 1861.

NOTICE to BUILDERS.—TENDERS will NOT BE REQUIRED for a New Church at East Moulsey, as advertised last week.

July 11th, 1861.

TO BUILDERS.—TENDERS required for a DETACHED HOUSE, STABLES, and COTTAGES, at Erith, Kent.—For further particulars, drawings, and specification apply at Mr. C. F. MALTBY'S, 73, Coleman-street, City; or at Mr. HERBERT FORD'S, 1, George's-terrace, Erith, Kent.—Tenders to be delivered on the 25th INSTANT.

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PORTABLE STEAM-ENGINE of 10-horse power, by Clayton, Shuttleworth, & Co. FOR SALE. New in 1859, and has been used but a few months.—Apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

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PROSPECTUS GRATIS.

The Builder.

VOL. XIX.—No. 962.

The New Victoria Theatre in Berlin.

E recently gave an external view and a plan of this house.* We return to it, but to consider more especially its internal arrangement; and have, consequently, chosen a view of the interior of the summer theatre, and a complete longitudinal section of the whole building.† It will be observed that the summer theatre has but two tiers of boxes above the pit, and that the architect has thereby sought to give it as open an appearance as possible, and also to admit of the utmost amount of light, and then to give a certain tent-like and uncommon lightness to the whole by the use of thin, gilded pillars, which finally support a roof partly retaining this same character, inasmuch as it represents, to a certain degree, a rich but elegant cloth stretched over the auditory. It is divided into compartments, each containing a painted medallion. There is a general idea of aspiration to height, and this is gained especially by the introduction of only two tiers. The whole colouring is subdued, but clear; and the effect is satisfactory.

The interior of the winter theatre is of quite a different nature. The necessity of supplying more places for the spectators caused, of course, the designer to arrange the tiers of boxes closer together; but he has certainly obviated that compressed and heavy appearance so common in theatres of this country, especially in Her Majesty's, and which the architect of Covent Garden so admirably avoided, for we can hardly conceive a better proportioned auditory in this respect than that of Covent Garden. Thus we see that in the winter auditory, which is very little higher than the summer, the architect has managed to introduce four tiers above the pit without crowding them together, or making it heavy to the eye. The principal colour of the decorations is white, with gilded ornamentation on dark red. The effect is warm and pleasant. Immediately in front of this house, on the other side of the corridors, stands the grand concert saloon,—a very worthy addition to the establishment; and, besides this, there are several large rooms for the court, the restaurant, &c. Over the ceiling of the winter theatre is placed the scene-painter's room,—an arrangement certainly inferior to that happy idea at Covent Garden, where scene-painting is really carried on with ease; but here we must stop to consider the construction of the roof, which, on this account, is somewhat peculiar. It was necessary to have a clear room, whose sides should be at least 50 feet long, in order that the large cloths might be painted with comparative ease. To get this clear space, anything like hanging supports from the roof was out of the question; hence the introduction of straight iron lattice beams, the under parts of which form the outline of the ceiling. The storehouse, or magazine, for the drop-cloths is in a separate building at the side of the stage: this is a model of neatness in arrangement, and out of it the cloths can be removed at the shortest notice and with great facility. The cloths are rolled and placed away on projecting trays—a great contrast to the arrangement in some of our theatres, where it is a day's work to get them out when wanted.

We will now proceed to consider shortly the stage machinery, which is in this house most curious,—a positively gigantesque work, that can scarcely be appreciated except by a master carpenter of the stage, but which, with all the difficulties to be overcome, is of a simplicity which is quite striking. Under the stage there is a mezzanine floor and two cellars, all clear, and unencumbered with anything like stage properties. As to the mezzanine, it might form a paradise for an old scene-shifter. Instead of seeing here a forest of posts and ropes, you have a comparatively clear space. It is 9 feet high, so that any one can walk about without danger to his hat. The wing ladders come through the stage, and run on an iron tramway on the floor of the mezzanine, and not, as in Covent Garden, on a beam about 3 feet below the stage, which beam renders this floor more impassable still in that house; so much so indeed, that one can only pass up the mezzanine floor with back bent double,—an arrangement not calculated to aid the carpenters in that quickness of motion which is so necessary should aught go wrong below. The wings are worked from a horizontal cylinder in the middle of the mezzanine, with the aid of counter weights; and, consequently, require no scene-shifters on the stage to push them forward or backward, and hence two men do the work of twelve. The drops are also worked from below, and require no men in the "flies;" in fact, they can be worked from the same central cylinders as the wings. In a large London theatre fifty men are required to work the stage: a fifth part of the number would work the Victoria, Berlin. The flies are clear, with very few ropes: contrast this again with any stage in London: the whole six lines that hold the drops work on one wheel at the top of the roof. From this wheel descends the counter-weight: there are four lines of flies, all fixed with their floor joists in the wall, on one side, and on the other held up by a beam hanging from the roof. The drops go straight up, and require no catching up in the middle, and consequent rolling on battens. In the walls at the side of the stage, and parallel with the wings, are a series of small shafts with lifts, so that men can go from the bottom to the top of the house without setting foot on the stairs. The stage is flat, without any acclivity. This arrangement, which has excited much controversy in Germany, has not been thought of yet in this country. We incline to the belief that the flat stage is superior, and in this we are backed with innumerable authorities; amongst them that learned engineer-machinist, Her Mühldorfer, of Mannheim, and all the young machinists of Germany. For the winter theatre it is capable of being used in its entire length of eight wings, or about 80 feet deep. The summer stage can only be used four wings deep, or about 38 feet, but this is abundant for all the scenic effects required therein. On either side of the stage there are corridors entered by doors from the stage, and leading out of these are the dressing-rooms. It is plainly necessary that in a well-arranged stage the dressing-rooms should be as near it as possible, and certainly never more than one floor above it. The passages should be guarded firmly against all draughts that could in any way endanger the health of the singers or dancers; hence also the great benefit of having corridors at the side of the stage, so that there may be no draught on the stage itself. The artists also, after finishing their duties, enter through it to their rooms, which helps to keep the wings clear, and avoids a crowd on the stage. The tailors' rooms should also be near the dressing-rooms, in order to avoid all unnecessary trouble of transporting the dresses any distance. Let there be, too, always plenty of lifts to obviate running up-stairs. Nothing can be worse than the placing of dressing-rooms below in the cellars: the danger the artists are thereby exposed to is dreadful. After the heat of dancing we have known most serious illnesses arise from such mistakes of construction. In the top of the stage roof are a series of trucks running on tramways across the stage, and between each drop, for the purpose of fairy and other flying effects. For each wing there are three wing ladders, all going through and running on a tram in the floor of the mezzanine. Besides, there is at each wing a tram in the mezzanine with its accompanying truck, on which may be placed rocks, &c. This is of peculiar make, inasmuch as it is fitted with a series of holes, so that a rock of any size may be fitted into it by spikes. This is called a *freifahrtwagen*, in German, and is totally unknown on English stages. Here it is common to fix them on the stage with a bar, an arrangement unworthy of the nineteenth century. All the grave-traps go through to the lowest cellar; thus a castle of any size may be sent up if necessary, for they are 35 feet broad, of an excellent and simple construction, with counterweights. This we have, however, long considered might be better worked with hydraulic pressure, although as yet nowhere introduced. In fact, we see no reason why the whole work now done by counterweights should not be better and more easily effected by such mechanical force. In conclusion, let us say that should any English theatrical director have the intention of reconstructing his stage, it is our earnest advice to him that he should send his master carpenter to Berlin to see the Victoria stage, and we are sure that he will not only save money in the construction of his stage from the smaller amount of wood and rope required, but that afterwards he will require only half the ordinary number of men to work it, and he will possess a piece of mechanism worth looking at. Frenchmen may talk, as they usually do, but there is nothing at present in Paris that can stand comparison with the Berlin theatre in reference to simplicity and excellence of stage machinery. We may also state to those interested, that they should by all means visit Mr. Mühldorfer, at the theatre at Mannheim, as well as Mr. Schütz, at Munich, machinists of great reputation.

REFERENCES TO PLAN OF FIRST FLOOR.

A. Stairs to the various tiers.
BB. Entrance to boxes.
CC. Corridors.
DD. Proscenium boxes.
E. Royal box.
F. Passage for promenade.
G. First tier.
H. Balcony.
I. The king's rotunda.
K. "Estrade" (private boudoir, two steps higher than rotunda.)
L. Closets.
M. Room for reading rehearsals.
NN. Wardrobes. Dressing-rooms.
O. Dressing-rooms staircase.
PP. King's private chambers.
Q. Conservatory.
RR. Rooms for royal princes.
SS. Entrances to ditto.
U. Grand lobby.
V. Concert saloon.
W. Side rooms.
X. Corridor.
Y. Various rooms.
Z. Kitchens.
1. Stairs to amphitheatre.
2. Yards to give light.

THE PRESENT AND PAST BOUNDARY OF THE RIVER THAMES AT LONDON.*

IN venturing to trace the progress of a work like that now under consideration, it is no easy task to determine the chronological steps in the series, or to show the numerous gradations by which these embankments may have passed from their rude, feeble, and imperfect beginning, to the mature and substantial condition in which we now enjoy them. That a vast number of hands were employed in their erection, during a great many years, and at an enormous outlay for labour, is an indisputable fact; but there is no evidence to show where these works were begun, in what manner they were carried on, or what part of the long-continued work received the ultimate pile of earth as a finisher.

The following table is made up from information

* See pp. 444-5, *ante*.

† See pp. 480-1.

* See p. 455, *ante*.

recorded by Sir William Dugdale, and other antiquaries; also from local histories of places near the river: it shows the dates of breaches, and of commissions appointed to survey and repair the same:—

Dates of Breaches; of Commissions to Survey; and of Repairs.

	A.D.	North Bank.	South Bank.
23 Edward I...	1295	.. .. ..	Between Lambeth and Greenwich.
26 ,, ..	1298	Stepney and parts adjacent.	
9 Edward II..	1316	.. .. ..	,, London Bridge and Vauxhall.
13 ,, ..	1320	.. .. ..	,, Greenwich and London Bridge.
15 ,, ..	1322	.. .. ..	,, Greenwich and Woolwich.
18 ,, ..	1325	Between St. Katharine's and Shadwell.	
15 Edward III.	1341	At Westminster, between the Neyt and the Temple.	
1 Richard II.	1377	Between Blackwall and St. Katharine's.	
22 ,, ,, ..	1399	.. ..	,, Woolwich and Southwark.
22 Henry VI..	1444	.. ..	,, South Lambeth and Deptford.
31 ,, ..	1453	.. ..	,, East Greenwich and Wandsworth.
37 Henry VIII.	1546	.. ..	At East Greenwich.
11 Charles II.	1671	.. ..	,, Deptford.
6 Ann	1707	At Dagenham.	

By these dates, which are well authenticated, we learn that the period of forming these embankments is considerably more remote than the generality of observers would imagine. The earliest notice that I have hitherto been able to find relating to these embankments is a commission dated 23rd of Edward I., 1295, which appointed eminent persons to examine and repair the banks between Lambeth and Greenwich; and more particularly a certain breach then newly made by the violence of the tides. The said commissioners were empowered "to impress labourers therein, in respect of the then great and urgent necessity, as might serve for the performance of that work." The general tenor of all these commissions is to a similar purport; they have reference to examining and repairing only; in no instance do they lead us to infer that the banks were then recently erected. All places throughout the entire distance along the southern shore from Woolwich to Wandsworth, and on the northern shore from Chelsea to Blackwall, are mentioned to be surveyed or repaired in one or other of these commissions; and the wording is invariably as if the embankments were at the time considered to be of some antiquity, or of long-established utility for the protection of the marshes near the river.

If the history of London be searched, or indeed that of the entire country, previously to the year 1295, which is the earliest date where mention is made of the Thames being embanked, we shall find that during a period of 229 years after the conquest of William I. the sovereigns of the British nation were principally engaged in warfare, for the purpose of securing their newly-acquired kingdom from the incursions of the Danes, Saxons, and other invaders. Their time was also taken up with crusading, building fortifications or sacred structures, and quelling the insurrections of the mutinous barons. Thus occupied, it is very unlikely they would undertake so great a work as that of embanking the river. During the greater part of the long period of five or six centuries which elapsed between the time when the Romans quitted this country and the Norman conquest, the inhabitants were almost constantly annoyed with sanguinary battles between the Danes and Anglo-Saxons, either of whom were sure to burn or otherwise destroy everything within their power: hence we may be sure no important improvements could be executed during such commotions. The country was also divided into a number of little kingdoms, each of which required too much attention in order to protect it from the depredations of neighbouring chiefs, for any extensive improvements to be made in the physical condition of the rivers. All such works are generally the result of a long-continued peace, which tends to produce a high state of civilization and refinement, and therefore could only have been accomplished within the last three or four centuries, or at some period of equal refinement in antiquity. Yet we know that the banks of the Thames have not been constructed in any period to which our records extend. Their existence is apparently antecedent to all our records, consequently, they can only be ascribed to the Romans, who began an era of refinement in this country that continued nearly 500 years, and was terminated by the Saxons, and which refinement did not return until the fifteenth or sixteenth century.* The laborious work of embanking the river was the natural operation of that magnificent spirit of Roman civilization which intersected the surface of the empire with so many ramparts raised for roads; but as these were generally formed only of earth, they have, in most cases, disappeared through neglect, and are almost wholly obliterated in those countries where agriculture and commerce have been long and thoroughly established. No such neglect is perceptible in the marshes which have been once gained from the inundations of a river. All such alluvial depositions generally produce the finest grass land, for which reason graziers are soon tempted to settle on them and to establish habitations for the breeding of cattle, which fatten well thereon: consequently the banks are sure to be kept in good repair, to prevent the destruction of their property.

All these low marshy districts, and especially that extensive portion on the southern shore known as St. George's Fields, afford a striking proof that persevering industry is capable of conquering disadvantages of both climate and situation. Many, very many years of toil and labour must have passed, attended by disastrous failures, while earth and water were obstinately contending for the possession of the marshes on the Surrey side of the river, before man could plant his dwelling, and say to the rolling tide, in the words of Job, "Hitherto shalt thou come, but no further; and here shall thy proud waves be stayed;" yet the labours of our ancestors have rendered this, formerly worse than useless territory, one of the richest and most densely-populated spots in the kingdom.

When the Romans settled at London, their natural desire for improvement would, in the first instance, direct them towards the immense space of unhealthy marshes immediately opposite the rising ground of their city. In all probability these marshes were the first to undergo a great alteration by this improving people. To give force to the argument in favour of these works being executed by the Romans, it may be desirable to mention an instance of works somewhat analogous that were progressing about the same time as the Thames embankment, and during the government of the Romans in Britain, that is, in the fourth century when Attila, king of the Huns, ravaged the north part of Italy. Many of the inhabitants abandoned their country and retired into the islands of the Adriatic Sea, now called the Gulf of Venice. These islands being in shallow water, and near each other, means were used to join them by driving rows of piles and filling in with rubble, upon which they built houses, leaving spaces or channels between the piles, to form canals, and thus the superb city of Venice had its beginning. The mode of joining these islands by piling, must have been something like the method adopted to form the Roman road leading to Camberwell, across the marshes, part of which was discovered in digging the Grand Surrey Canal, in the year 1809, as heretofore mentioned.

All that I have heretofore stated has reference only to what was done with the river and its boundaries, during some unknown period previously to the reign of the first Edward; from that time we have incidental notices that embankments existed, because occasionally reparations were ordered. I now propose to offer a few remarks on the present state of the river, and the great public utility which might be gained by an alteration.

At an early period of our mercantile pursuits, when the metropolis of Britain was not a tenth part of its present size; when the population, not only of London, but of all England, was by comparison very limited, and with scarcely any foreign trade, we may easily imagine that in such a state of society the wharfage of the river Thames was quite sufficient for the traffic of the inhabitants.

* A series of papers on the Thames will be found in an earlier volume of the *Builder*, wherein this point is treated of at greater length. At the present moment the subject has fresh interest.—ED.

But with the enormous increase of buildings in London, abounding, in every part, with a manufacturing and mercantile population, it is not unreasonable or inconsistent to suppose that the river Thames, which is the great public highway of the metropolis, might be wonderfully improved and amended to suit the requirements of the present times; yet I believe it is no more strange than true, that if we except the several docks on the northern shore, together with a few local embankments, such as at Somerset House, the Adelphi, the Parliament Houses, &c., the river and its boundaries have undergone no regular, uniform alteration or improvement for the accommodation of landing goods or loading vessels during at least 1,000 years; or, what is more probable, since the time when the Romans quitted this country. As far back as the year 1666 we find the first general plan for embanking the river submitted to the corporation of the City, and to the Government, by Sir Christopher Wren, immediately after the fire of London. If any portion of such plan were executed, few traces of it are now left; probably owing to numerous encroachments made from time to time by private individuals, which were either tolerated or overlooked by the proper authorities.

The public libraries of London and Westminster abound with voluminous reports of committees of the House of Commons, during the last sixty years, on "The Improvement of the Port of London;" many ingenious projects have been suggested, and strongly recommended by the principal engineers, and many other public-spirited individuals, who have devoted months and years in making surveys, maturing plans, and drawing up reports upon this very important subject, wherein the extension of commercial enterprise, and thereby the prosperity of the mercantile world, is so deeply concerned. That the river and its banks are capable of being made infinitely better, and more useful for navigating, loading, and unloading all kinds of vessels, seems to be generally admitted; but, practically, the whole affair appears to be almost at rest, or very little thought of.

Width of the Thames at high water.

At Nine Elms	680	feet
,, Vauxhall Bridge	702	,,
,, Penitentiary	600	,,
,, Millbank to Bishop's Walk..	1,050	,,
,, Board of Control	1,200	,,
,, Buckingham-terrace	1,480	,,
,, Somerset House	1,250	,,
,, Temple.....	1,240	,,
,, Blackfriars Bridge	995	,,
,, Queenhithe.....	700	,,
,, Southwark Bridge	720	,,
,, London Bridge	946	,,

The irregular breadth of the river, between Deptford and Vauxhall, as shown in the preceding table, causes an unequal velocity of the current; consequently, where the river is narrow, the current will be rapid, and forcible enough to carry the turbid matter in suspension, to where the stream is wide and shallow: in this manner vast quantities of mud are deposited near the shore, where there is little water. At many parts, vast areas, amounting even to acres, of the bed of the river, are without water during several hours every day; so that no vessels, not even the smallest boats, can get to the wharfs until the tide has risen high enough to admit them.

The most casual observer, on viewing the Thames at low water, either from Westminster or Waterloo bridges, must be struck with the immense shoals of gravel and mud, which are allowed to interfere with the navigation of the river, and thereby to impede the daily progress of the merchant. Instead of the barges and other vessels being enabled to go to any of the wharfs, up or down the river, at all times of the tide, to take in goods or to land them, they are obliged to wait until the tide serves their purpose; and then, very frequently, before they can accomplish their business, the vessel is aground, by which they lose a tide, and there they are compelled to remain till the next high water. Another circumstance occurs almost daily, which is, that vessels accidentally get aground on some of the shallows, perhaps in the middle of the river; and if this happens during the recession of the tide, they may be considered terraqueous prisoners for at least four or five hours.

It is an axiom in all industrial and commercial affairs, that time and money are almost equivalent; therefore the detention of a cargo is a positive loss, not only to the merchant or owner of the goods, but to the proprietor of the vessel, to the retail dealer; to the consumer, and, in short, either directly or indirectly, all who have any interest in the matter, are certain losers by the delay. There is also a very considerable increase in expense attendant upon lighterage, entirely owing to the

delay occasioned by impediments on the river, such as not being able to navigate barges at all times of the tide; and, further, if the river were improved, small vessels, technically called "Billy-boys," that carry about 100 tons, would bring their cargoes up the river, and deliver them on the wharfs at once, by which means they would save the expense of shifting the goods into barges, and the cost of lighterage would be altogether avoided. It is also certain, that the oftener goods are removed the greater will be their cost, and the more likely they are to be injured. For example: large coals may be crumbled into small by throwing them out of the collier, and thereby deteriorated in value by lighterage.

If the river is capable of great improvement, the natural question may be asked, "Why is it not commenced?" If such enormous works on the boundaries of the Thames were undertaken and completed on both sides, from Wandsworth to the sea, during ruder times, surely, in this civilized age, a little more might be done; and little it certainly would be, compared with the embankments of a former age; and that little is generally acknowledged to be almost indispensable. The concluding words of the reports upon the subject in all the "Blue Books" is, in substance, to the same effect,—the business is adjourned *sine die;* no day being named for its re-consideration. That the property on the banks of the river would be far more valuable by the alterations, is pretty certain. There may be some few exceptions; but it is impossible, in a great work like that now under consideration, to benefit the mass of the people, without a certain amount of injury to some individuals, for which compensation must, of course, be assessed by a jury. No doubt, much of the apathy and procrastination which exist in this matter may be attributed to certain influential parties, who may be timid, and afraid that a change may interfere with their business, or shake their influence. Others adhere firmly to prejudice in favour of long-established practice, and thereby determine to go on as heretofore, and oppose all efforts tending to bring about an alteration.

Had similar apathy and opposition been allowed to overrule the improvements in transport of passengers and goods by land, we should never have been able to go from London to Edinburgh between the rising and the setting of the sun. The railways, at a cost of about 300,000,000*l.*, have ploughed through the kingdom in all directions like magic. Individuals of rank and station, as well as corporate bodies, have, in numerous instances, opposed their passing through their estates; but a jury of the country has, as if magically, settled the matter in dispute, and on goes the locomotive, *pro bono publico*, perfectly regardless of the individual opinion of either peer or peasant.

If only a fraction of the same spirit of enterprise could be brought into operation for the improvement of the river Thames, within three or four years we should hear no more complaints about impediments to the free navigation of the river at all times. Such objections and inconveniences would be on record as matters of history only; and future ages would wonder how the merchants and citizens of London, in the nineteenth century, could have tolerated the obstructions of the river so long, while they had the power to remove them. To suppose that there would be any difficulty in raising the money for the expenses is altogether out of the question. Whenever money is wanted in this country for any legitimate object,—for a work of great public utility, it is raised almost as fast as it can be called for. Mr. Walker, the engineer, who was consulted in this matter before the Committee of the House of Commons in 1840, stated, that the cost of embanking the north side of the river, from Vauxhall Bridge to London Bridge, would be 310,000*l.*, or about 20*l.* per foot, running measure, exclusive of compensation for private interests on the present banks. But, whatever the cost may be, it will only be for labour, as the money will not have been sent out of the country. In the same manner the railways, which are said to have cost 300,000,000*l.*, may, in one sense, be considered to have cost nothing; because, in a national view, we still have possession of the money: it has merely passed out of one hand into another; so that, collectively, we are equally rich: and all of us have the full enjoyment of the railways into the bargain.

Where a great work, of simple, manual, and bodily labour is required, such as merely digging the ground and carrying it from one place to another close by, this might be performed, in great part, upon a different and more economical plan than is usual in similar cases. There is always a vast number of healthy, able-bodied labourers, either out of employ or whose services are misapplied. This is bad political or parochial economy; it is an error of judgment in those who have the management of public affairs, to allow the powers of these men to be wasted so long as there is any work of importance which ought to be in progress to benefit the community. For whether they are employed or not, they must have food, raiment, and lodging; however humble it may be, it is worth something, and unless a market be provided for them, to dispose of their labour to advantage, in return for their scanty fare, the intrinsic value of their sustenance is as completely lost to the world as if it had been cast into the ocean. While the number of individuals thus unemployed, or unprofitably employed, remains comparatively small, they are supported by the parish, by begging, or by some means less creditable to themselves; and we do not feel the loss, in fact, we are "*used to it*," and think lightly of the burthen. But suppose half the population of the kingdom were to become paupers for want of proper employment, the consequences would then appear fearfully alarming, but the loss to the nation is the same in proportion to the number. I will only mention one or two common cases of unprofitable employment. Those persons who are in the habit of perambulating the streets of this great town, especially those at the west end of it, may have observed during the summer, a few years back, four or six healthy, powerful men dragging a truck with a little water in it, to lay the dust. A horse and cart, with one man, would have done double the quantity of watering in half the time. The same remarks apply to sweeping the streets. You may often see a dozen scavengers cleaning the streets, greatly in the way of the traffic; whereas with one of the sweeping machines, a man and horse would do the same amount of sweeping, and taking away the mud in a much shorter time, and with far less inconvenience to the public.

Numerous other means of economizing human labour might be mentioned, by which a superabundant number of able-bodied men might be obtained to perform the laborious part of great public works, such as the improvement of the river Thames.

In conclusion, I will offer one or two reflections which naturally arise out of my subject. There is, perhaps, no country in the civilized world where commerce is more thoroughly appreciated than in the British Isles; and there is scarcely a populous territory in either hemisphere which is not more or less commercially associated with the British merchant. The importance of commerce forcibly reminds us of the obligations we owe to all our fellow creatures, and produces a system of mutual dependence amongst us, which in return is the chief source of ultimate independence. Commerce is said to be the offspring of peace; and it is also said that the surest way to remain at peace is to be always prepared for war. This may be good and true in one sense, but commerce has higher claims: it induces nations to be peaceful towards each other: as in private business, individuals are disposed to overlook petty annoyances rather than give offence to a good customer; so with nations, if mutually indebted to each other, and bound together by commercial interest, they will be more likely to establish permanent peace and good will between them. We all well know, by experience, that peace, resulting from victory, takes millions from our coffers: peace and plenty, induced by commerce are, on the contrary, sources of national wealth. Let us, therefore, "not be weary in well doing," but proceed to mend our ways on the banks of "*Old Father Thames*," if the trade of the City of London, and the mercantile interest depend in any degree upon the conveniences to be met with in the river.

C. H. SMITH.

ARCHITECTURAL EXAMINATIONS AND THE INSTITUTE OF BRITISH ARCHITECTS.

WE are now enabled to give a fuller report of the discussion which took place at the meeting of the Institute on July 1; Mr. Penrose in the chair.

The Chairman read the notice convening the meeting; and said that the members, having read the scheme therein referred to, must feel that it involved a question of great importance to them; because, as architects they ought to have the privileges which other scientific bodies possessed. A committee had been appointed, and had taken some time to get the matter in the shape in which it now stood before the meeting; and he thought that the time had not been ill-spent. Mr. Ashpitel, he believed, was prepared to address them on the subject.

Mr. Ashpitel said that he should make very few observations at the present stage of the matter, as it might be necessary for him to refer hereafter to matters of detail which might possibly be objected to. The committee consisted of gentlemen entitled to their greatest respect. It had met ten or a dozen times. Every opinion in art or practical architecture had been fully represented. There had been amongst them the freest expression of opinion, and the utmost kindness, without the slightest jangling. The committee thought they should divide the mode of examination; so that, under one portion, any man who really and fairly called himself an architect, ought to pass. When they got beyond that line, they had to deal with men of all shades of talent and taste; and the committee thought that those men, whatever their aspirations might be, ought to have a fair opportunity of showing their abilities to the world. The battle of styles ought to be kept out of the question; and every existing or future style should have an opportunity of developing itself. The committee had particularly endeavoured to avoid a course of examination in which the examiners should come forward to show their own talent, and to raise an opinion that the cleverest man among them was he who plucked the greatest number of candidates. To encourage that idea would be (to use the language of the bar), to make the examiners *cross-examiners*. Nothing would be more easy than to pluck candidates; but it was essential that the profession should be assured of the perfect fairness of the examination. It *must* be a technical examination; and there should not be the slightest suspicion of favouritism. Their secretary had most ingeniously devised a measure by which the most entire fairness must be inevitable, because the examiners would not know the examined, and the examined would not know the examiners; so that no man who might happen to be plucked could go away with any complaint of unfairness, or pretend that, if he had had a friend at court, he would have passed. The Institute had affirmed, by a distinct resolution, that there should be an examination; and, by another resolution, that a curriculum should be prepared; and it was his duty, *ex officio*, to move that the report be received, subject to correction by the meeting. He would only suggest that members who had any objections to make should, in the first place, address themselves to the general principles of the scheme, and leave all matters of detail, and of wording, to be afterwards considered.

The Chairman concurred in Mr. Ashpitel's view that it was most desirable to deal first with general principles, and afterwards with details.

The motion having been seconded,

Mr. Seddon inquired if the scheme was to be carried into immediate effect, or to be left for further consideration by other bodies in the profession, who were, perhaps, more interested in it than the Institute. The report had evidently been carefully considered; but the subject was of such great importance that he thought further time should be given for its consideration.

The Chairman reminded Mr. Seddon that on the 14th of January last a number of replies to the circular of the Institute (addressed to provincial societies) had been read. The profession at large had known all that was going on: it was open to them from the very first: various suggestions had since been received; and the scheme now proposed had been sent to each society, with a request for its opinion thereon.

Mr. Ashpitel had heard no whisper of any opposition to the plan proposed; but, if there should be any, he thought it should have a fair hearing; and, if sufficient time for objections had not been allowed (though he thought there had), he could not object to allowing further time.

Mr. Charles Barry concurred with Mr. Seddon in deprecating any hasty decision. He thought that an examination which would distinguish the architect from the empiric was a proposition which no one would dissent from. Any scheme issued under the sanction of the Institute should be accepted in its entirety, or not at all; and the only question was, whether the particular examination proposed, and the proposed manner of carrying it out, would be endorsed by other societies. If it should be rejected, and fall a dead letter, which was possible, although he hoped not probable, the Institute would be placed in a very undignified position.

Mr. T. R. Smith said that the proposition of the Institute had been sent to the Architectural Association; and, on the broad question that there should be an examination, as having an educa-

tional tendency, the Association expressed its unanimous opinion that an examination was desirable. The document now under discussion they had felt some delicacy about, as being partly of a private nature. At their meeting on Friday last they had some conversation upon it; but it was unanimously thought that they had not sufficient time or sufficient acquaintance with the subject to express a decided opinion upon it. The only idea expressed was, a hope that care should be taken in any examination to give facilities to those who had been educated, not in academies, but on the scaffolding, at the bench, or in the office.

Mr. Papworth thought the question should be adjourned to some given day, especially to enable the four principal societies which had corresponded with them on the subject, to send in their answers to the scheme proposed.

Mr. J. Edmeston was willing that the report should be received and approved, but thought that no immediate action need be taken upon it, and that the members should not separate without giving expression to their opinions on the subject.

Mr. Ashpitel (in order to save discussion) said that he would simply move, "that the report be received."

The Chairman put this motion to the vote, and it was carried unanimously.

On the question that the report received be taken into consideration, and, as an amendment, that the question be postponed until the commencement of the next session,—

Mr. Robert Kerr suggested that it should be remitted to the committee to ascertain the opinions of the other societies, and to devise a scheme for carrying the plan of the Institute into operation; the whole to be laid before the Institute at the commencement of the next session. Mr. Kerr explained at some length the views which had guided the committee in the preparation of their curriculum; and said that, with regard to the list of books proposed for study, he considered it exceedingly valuable as the preliminary step to the examination. The young student has now gained, through the labours of this committee —by this list of books—an important step to elementary education in architecture. The books marked in the list with a † were purely elementary works, chiefly comprised in the valuable series published by Mr. Weale, and were scarcely more than a dozen in number; and, upon the whole, he considered that the value of the document issued by the council could scarcely be overrated in an educational point of view. Still he thought it would be better to postpone any decision on this important question until the next session; and, in the mean time, to instruct the council to devise a scheme for carrying out the excellent project which they had submitted to the meeting.

A conversation took place as to the time of the proposed adjournment; and a member having proposed that it should be adjourned to the first ordinary meeting of the next session,—

Mr. Ashpitel said he had no objection to that; because, although visitors might be present and make observations, they could not vote upon the subject.

Mr. Kerr thought the matter could only be discussed at a special meeting of members.

Mr. Seddon said it would be hard to invite non-members to give their opinions, and not allow them to vote.

Mr. Papworth said that in the first instance they had applied to the four principal architectural societies. They received five replies; and the fifth was from the Liverpool Architectural Association. It was a remarkable thing that the four societies unanimously adopted the idea of an examination, but agreed in throwing on the Institute the onus of carrying it out in detail. And, if the Institute was to be responsible for carrying out the scheme, he did not see why the members of societies should be present or vote upon the question. The written opinion of local societies would always be received by the Institute with more respect and deference than they could properly accord to the *vivâ voce* remarks of half a dozen speakers.

The Chairman suggested an adjournment of the subject to a special rather than an ordinary meeting, to be held as early as possible next session, and to which the secretary should send special invitations to gentlemen who might be likely to elucidate the subject.

After some conversation,

Mr. Lewis, hon. sec., read the bye-law, to the effect that no question on the regulation or management of the Institute could be discussed at an ordinary meeting.

Mr. C. Fowler hoped that the question would not be discussed at an ordinary meeting. No doubt the public at large were interested in the question, but the Institute were the most interested.

Mr. G. E. Street thought, when the subject was again discussed, it would be desirable to have gentlemen present who had some practical knowledge on the subject of examinations generally.

The Chairman said that such gentlemen might be specially invited by the hon. secretaries.

Mr. R. Kerr said it was a matter for serious and almost painful consideration, on the part of the committee and the hon. secretaries, to devise the details by which this project could be effectually carried out; and the Institute should be prepared with practical answers to the practical questions which would certainly be put when the question was next under discussion.

Mr. T. R. Smith remarked that it would be better to adjourn the subject until November next, as none of the architectural societies would hold their meetings during the next two or three months.

Mr. Kerr did not think it likely that the Institute would receive any proposed modifications from local societies.

After further discussion, the motion was withdrawn in favour of the amendment.

Mr. Kerr was surprised that he had not heard an objection to the *principle* of the proposed measur; and, if any such objection was entertained, he hoped it would be expressed.

Mr. Charles Barry thought there would be a difficulty in dealing with existing professors of architecture of long standing. Mr. Kerr had stated that the objects of the examination were *educational;* but, the term educational could hardly apply to the class he wished to refer to, who would hardly ask for education at the hands of the Institute. If, therefore, the scheme was educational, he must exclude all architects of any standing. No provision was made for any honorary diploma; and therefore he did not see what difference there was between those who wished for *education* and those who only asked for *distinction*. For himself, he did not see the way out of the difficulty; and he thought this one of the rocks upon which the scheme was likely to split. He thought it was essential to consider whether there should not be an honorary diploma; either by vote, acclamation, or judgment of an architect's works.

Mr. Ashpitel suggested that any observations similar to those of Mr. Barry would have far better effect if addressed in writing to the committee, so that they might be fully considered before the renewed discussion of the subject.

Mr. Papworth called attention to the fact which the title of the paper showed,—viz., that what was proposed was "Voluntary Architectural Examination;" and, if Mr. Charles Barry wished for a certificate of proficiency, and voluntarily came forward to seek it, it would be a great delight to the examiners to grant it.

Mr. Charles Barry agreed that the question turned upon the word "voluntary;" and the question was whether A or B, who had been many years in practice, would take the trouble to get themselves up to pass such an examination as that proposed by the Institute. For himself, he certainly should do no such thing; and, in the remarks which he had made, he was quite aware that he had laid himself open to the observations of Mr. Papworth. This was one of the greatest difficulties of the question. It was said that established architects should come forward to confer honour on the examination; but he did not wish to confer honour on the examination. Still the examination might be a good thing (as he had said before) to separate the architect from the empiric.

Mr. Ashpitel again impressed upon the meeting that the aim of the committee had been to bring the subject forward gradually; beginning with a low standard; and hereafter to raise that standard higher; which they might possibly do either by law or by that public opinion which was stronger than law; but, if done at once, it would be most unjust to the young men who were unprepared to meet it at present. The committee intended to follow the example of the Law Society, the Pharmaceutical Society, and similar bodies; until they made it a *diploma* which would be worth having, and of which a man should be proud. The error of the civil service and military examinations was, that they began with too high a standard, and included questions which seemed to be concerted to disconcert the candidate;—but, still, these examinations had raised the standard in those departments.

Mr. Seddon wished to know what the committee were driving at? Did they want a diploma?

Mr. Ashpitel explained that he trusted the stamp and *imprimatur* of the Institute would act, in the view of the world, not exactly as a *diploma*, but that it would be something like the privilege which enabled a man to put M.D., or F.R.S., after his name.

Mr. Seddon believed the whole scheme to be impracticable.

Mr. Ashpitel said they had been told it was impossible, and absurd, to get up a curriculum; but the committee had done so in the short space of two months. It was not their object to prevent a man from building a pigstye without passing an examination; but to give a better man an honourable distinction, which he should be proud to add to his name.

Mr. G. Street regretted that the word "*diploma*" had been introduced, because he believed such a thing had never been contemplated. The word "*voluntary*" had also been dwelt upon, but it never had been in the minds of the committee to make this a *compulsory* examination.

Mr. Papworth said that the paper under discussion had no reference either to a certificate or a diploma; but, by a singular circumstance, at the last annual meeting, a resolution had been passed, by which every member of the Institute could obtain its diploma on payment of 5s.

Mr. Lewis, hon. sec., read the resolution referred to by Mr. Papworth, which was merely a certificate of *fellowship with the Institute.*

Mr. Kerr.—The question of a diploma was always a stumbling-block, and ought to be got rid of.

Mr. Ashpitel thought that, although he himself might have stumbled over the word "*diploma,*" his friend Mr. Kerr had equally stumbled over the word "*education.*" The object of the scheme of the committee was not to *educate* people, but to try whether they had been educated.

Mr. T. R. Smith considered that the proposed examination was entirely voluntary, and merely a test that any candidate had been educated to a certain extent; and if they went beyond that they would drift into an approach to a diploma.

Mr. C. Fowler objected to the use of the word "diploma," which had led to much difficulty in the question. He concurred in the propriety of a gradual change in this system, which appeared to him to be as important as the change in the constitution of a country. He thought the scheme of the Institute peculiarly calculated to afford opportunities for the progress of young men.

Mr. Ashpitel said that, having withdrawn his own motion, and there being none at present before the meeting, he begged to move, "That the further consideration of the scheme submitted be deferred until some Monday in November; and that the committee be instructed to endeavour to obtain the opinions of other architectural bodies on the subject."

Mr. Street seconded the motion, which was then put to the vote and carried *nem. con.*

Votes of thanks were passed, and the meeting adjourned.

THE LATE MR. GRAINGER, OF NEWCASTLE.

MR. RICHARD GRAINGER, to whom Newcastle-on-Tyne owes its present architectural aspect, died on the 4th instant. Through his energy and skill the range of streets comprehending Grey, Clayton, Market, Grainger, Nelson, Hood, and Shakspeare streets, with the theatre, Central Exchange, the new markets (among the finest covered markets in England), the Branch Bank of England, Messrs. Lambton's Bank, the Arcade, and innumerable public buildings were erected. Mr. Grainger was self-made. His father was a porter on the quayside. The father died shortly after the son was born. His mother followed the employment of laundress to maintain her children, and Mr. Grainger received what education he got in the St. Andrew's School. He served his time as a house-carpenter. Mr. Grainger was of a generous disposition. Some years ago the magnitude of his transactions temporarily embarrassed his affairs; but the progress of trade improved his property after; and in recent years he reaped the more substantial results of his energy and intelligence. He has been described as the *architect* of the various buildings he erected; but this is not correct. He was assisted in many of his undertakings by the architects of the town, and by none more than Mr. John Dobson, from whose designs Mr. Grainger erected the New Market, Royal Arcade, and several other buildings. Like all truly great men, he never disavowed his humble origin, but allowed his conduct through life to be the true index of his innate worth. A

writer, many years ago, in summing up a description of the various improvements made by Mr. Grainger, says:—

"The moral requisites to such achievements as Mr. Grainger's are no less remarkable than the intellectual. It is clear that he could not have effected what he has without having first inspired his neighbours with a strong confidence in his integrity. Gentlemen who have had to receive periodical payments from him declare him to be the most regular payer they ever had to do with. His workmen regard him as something like the sun for his punctuality and the unremitting character of his operations.

Much of his composure is owing to natural temperament; but there must also be some strong principle of self control restraining the impetuosity on the one hand, and the anxiety on the other, to which enterprising minds are liable. It is said that Grainger was never seen out of temper, nor does his quiet cheerfulness ever appear to give way. When we consider how often his plans have certainly been thwarted, what noble designs he has been compelled to surrender, what opposition and disparagement he has encountered for years from such of his townsmen as have wrongly imagined that his interests were incompatible with theirs, and that in the conduct of such vast pecuniary affairs, through seasons of commercial fluctuation, a thousand difficulties and perils must have arisen;—when, too, we take into account the annoyances to which the master of two thousand workmen and the occasional servant of various public bodies must be subject day by day, it is clear that something far beyond common good nature has been the means of bringing him through without injury to his health or peace of mind."

A FEW SUGGESTIVE THOUGHTS TO ARCHITECTS.

WHY should "Classic" architects continue to repeat and copy the ancient Greek sculpture? Would not the conventional treatment of the British flora be better for their capitals, and at the same time give a certain nineteenth century and original stamp to their work? Did not the Greeks work thus? Is not the talk of the "Ideal" in sculpture very indefinite? Did not the Ideal with even the old masters simply consist in giving expression to their figures.

Is not the true Ideal merely great and good expression? Does it not exist now as of old? How is the grotesque in sculpture to be managed in this the nineteenth century? What is our grotesque? What is the difference between Byzantine grotesque and our grotesque?

What was the meaning of a dragon biting its tail in the twelfth century? and what would be the meaning of the same in our age?

What constitutes grotesque in the nineteenth century?

How are the savage and the ridiculous to be treated now?

Why not give to modern "Classic" the same liberty of development as to modern Gothic?

THE NEW LIBRARY AT HARROW.

ON the annual speech day at Harrow School (the 4th inst.), Lord Palmerston laid the foundation stone of the Vaughan Library, commemorative of the mastership of the Rev. Dr. Vaughan. There was a large assemblage of old Harrovians, and many of the parents and friends of the *Alumni* now pursuing their studies on that foundation.

The laying of the stone took place immediately at the conclusion of the speeches. The site selected is between the school chapel and the master's residence, hitherto occupied by a row of unsightly houses, which have been cleared away within the last week. The new building is to be similar in style to the school chapel,—Gothic, of the thirteenth century,—and commands a beautiful south-east prospect. Mr. Scott is the architect.

The Head Master afterwards gave a *déjeûner* at his residence to nearly 200 persons of rank.

Lord Palmerston has since, in the Commons, thus alluded, in the discussion on the Foreign Office design, to his part in laying the stone of an edifice of a Gothic character. Referring to a remark by Mr. Layard, he said my hon. friend has had the kindness to give me credit for some common sense. He said I had lately shown my possession of that quality by going down to lay the first stone of a Gothic building. Well, I think that did show common sense. I am not fond of the Gothic; but having been applied to to lay the stone of a Gothic library (the plan of which had been approved by the proper authorities), which was in harmony with a Gothic chapel recently erected, close to which it was to be placed, and also in keeping with old John Lyons' school-house; I waived my objection to the Gothic style, in attending on that occasion. I now ask my hon. and noble friends to show the same good sense on this occasion. I ask them to waive their prejudices, and to agree to lay the first stone of an Italian building. I am quite sure, when they see that building rise, they will have the same feeling that I shall when I see this Gothic building rise—great pleasure in having contributed to its erection.

LIST OF WORKS RECOMMENDED TO CANDIDATES FOR ARCHITECTURAL EXAMINATION.

THE following works are recommended by the Council of the Institute to gentlemen proposing to become candidates, as containing so much of the information that can be gained from books as is likely to be required in furnishing answers to the question-papers, except upon particular languages and styles that may be selected by candidates.

N.B.—The works marked * form portions of Weale's Rudimentary Treatises. The works that are preceded by the mark † may be selected as affording an abbreviated, but tolerably complete, course of English reading of an elementary character for students; it being presumed that in each case the reader will be able to discover what portion (if not the whole) of the volume is intended.

	Drawing and Design.	Mathematics and Physics.	Languages.	Professional Practice.	Materials and Construction.	History and Literature.
Addison, Treatise on Law of Contracts, and Rights and Liabilities ex Contractu. 8vo., 1856				×		
Amos and Ferard, Treatise on the Law of Fixtures. 8vo., 1847				×		
Ansted, Elementary Course of Geology, &c. 8vo., 1856		×				
†Arnott, Elements of Physics. 8vo., 1828		×				
Baker, Land and Engineering Surveying.* 1859		×				
Baker, Mensuration.* 1859		×				
†Baker, Principles and Practice of Statics and Dynamics.* 1851		×				
Barlow, Treatise on the Strength of Timber, Cast Iron, Malleable Iron, and other Materials; revised by Heather and Willis. 8vo., 1851		×			×	
Bartholomew, Specifications for Practical Architecture, &c. 8vo., 1846				×	×	
Batissier, Histoire de l'Art Monumentale. 8vo., Paris, 1859			×			×
Bernan, History and Art of Warming and Ventilating Rooms and Buildings. 8vo., 1846		×				
Brandon, Analysis of Gothic Architecture. 4to., 1847						×
Bruff, Engineering Field Work. 8vo., 1840		×				
†Burnell, Limes, Cements, Mortars, Concretes, Mastics, and Plastering.* 1857					×	
Castle, Treatise on Land Surveying and Levelling. 8vo., 1845		×				
Chambers, Treatise on the Decorative Part of Civil Architecture; with Essay on Grecian Architecture by Papworth. Fol., 1826						×
†Chevreul, De la Loi du Contraste simultané des Couleurs, &c. 8vo., Paris, 1829 (with it plates, 4to., 1839): of this there are abridged translations by Martel, 8vo., 1854, and by Spanton, 8vo., 1860		×				
Chitty, Treatise on the Law of Contracts. 8vo, 1857				×		
Cicognara, Le Fabbriche e i Monumenti cospicui di Venezia. Fol., Venice, 1858			×			×
Cresy, Encyclopædia of Civil Engineering. 8vo., 1856		×			×	×
†Dobson, Art of Building.* 1859					×	
†Dobson, Foundations and Concrete Works.* 1850					×	
†Dobson, Masonry and Stone Cutting.* 1856					×	
†Dobson, Student's Guide to Measuring and Valuing. 8vo., 1843				×		
†Donaldson, Hand-book of Specifications; with Glen, a Review of the Law of Contracts. 8vo., 1860				×	×	
Fairbairn, on the Application of Cast and Wrought Iron to Building Purposes. 8vo., 1854					×	
†Fergusson, Hand-book of Architecture. 8vo., 1859						×
Field, Painter's Art, or a Grammar of Colouring.* 1858					×	
†Fownes, Rudimentary Chemistry.* 1848		×				
Fownes, Manual of Elementary Chemistry. 8vo., 1858		×				
Gailhabaud, Monuments Anciens et Modernes. 4to., Paris, 1842-52						×
Gauthier, Les plus beaux Edifices de la Ville de Gênes. Fol., Paris, 1830						×
Gibbons, Law of Contracts for Works and Services.* 1857				×		
Gibbons, Law of Dilapidations and Nuisances. 8vo., 1849				×		
†Glossary of Terms used in Architecture. 8vo., Oxford, 1851						×
Grandjean and Famin, Architecture Toscane. Fol., Paris, 1846						×
†Gwilt, Encyclopædia of Architecture. 8vo., 1854		×		×	×	×
†Herschel, on Light, Sound, &c. 4to., 1856, &c.		×				
Hittorff, L'Architecture Polychrome. Fol., Paris, 1852						×
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Hutton, a Course of Mathematics. 8vo., 1824; and 8vo., 1841-3		×				
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London, on Gardening, &c. 8vo., 1850	×					
Lyell, Manual of Elementary Geology. 8vo., 1855; and Supplement, 8vo., 1857		×				
Malton, Complete Treatise on Perspective. Fol., 1775	×					
Malton, Young Painter's Maulstick, a Practical Treatise on Perspective. 4to., 1800	×					
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Milizia, Vite; or, Lives of Celebrated Architects, Translated by Cresy. 8vo., 1826						×
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PHYSIOLOGY AS A BRANCH OF EDUCATION.

IN one of a series of lectures recently delivered in the Crystal Palace, Dr. Lankester directed attention to the great necessity which exists in these days of making physiology a branch of general education; and so clearly does he put this important question, that we are induced to glean a few notes for the consideration of some of our readers.

The lecturer, after impressing upon his audience the great necessity which there is for both rich and poor well understanding those laws which govern human life, observed that the laws of physiology were not difficult of attainment. They might, not only satisfactorily, but easily, be introduced into schools. Children, at a very early age, could be made to understand the laws which regulated their lives, and so prevent many diseases which which were brought on through ignorance of or inattention to these laws. He reminded them of the Bible account, which said, "Dust thou art,"—"The Lord God formed man out of the dust of the ground,"—&c.; and explained that their bodies were actually composed of the same ingredients as the dust of the ground. There were fourteen elements in it and, unless the natures and properties of these

were well understood, it was quite impossible that they could comprehend the wants of their bodies.

He then drew attention to four of the several elements of which their bodies were composed; namely, oxygen, hydrogen, carbon, and nitrogen; which four principally entered into the composition of the body. By their aid man was enabled to perform the ordinary functions of life. Carbon, he explained, was the same as common charcoal: it was such an important element in the human body that, out of one of the weight of 154 lbs., 21 lbs. of charcoal could be found: of that element rather more than half a pound was consumed in the body of every man in every day of his life; just in the same manner as coal was burnt in a fire-place, or charcoal in a stove; and to a similar end, namely, the supply of heat. It was not difficult to understand the nature of charcoal; and how, in its union with the oxygen of the air, it became converted into carbonic gas; the result of which was heat. What took place in a lamp, or anything burning, was just what occurred in the human body. The warmth essential to life was maintained by a kind of oxydation of carbon. The result of the oxydation of carbon in the human body was precisely the same as that which took place out of it. Without sufficient oxygen in the air, a lamp would go out: so the carbon in the body could not perform its heating functions without sufficient oxygen from the atmosphere breathed. A knowledge of even that much of chemistry might be the salvation of thousands of people who were now, by their malpractices, laying the foundation of fatal diseases: persons shut themselves up in close rooms; never opened their windows; blocked up their chimneys; had their curtains close drawn; and made every arrangement to prevent the proper supply of oxygen upon which their lives and health depended. The fire of life would go out as soon in man without oxygen, as would the light before the lecturer if an extinguisher were placed over it.

Dr. Lankester then proceeded to explain the action of the muscles, and showed that every such action used up or exhausted a certain quantity of fibrine; and every action of a nerve used up a certain quantity of albumen, of which the nerves were formed. Hence, if a man lived, he must have a further supply, to replace that which was used. If they threw out of their bodies about 8 oz. of charcoal per day, as the result of the combustion going on within them; then there must be an equivalent quantity taken in to supply the loss and sustain the fire of life; or in order that the combustion may go on the next day as it had done previously. There was a large quantity of muscular and nervous matter consumed in the actions of moving, thinking, and feeling; for feeling itself exhausted the nervous matter. Had men no nerves they would have no feeling; but, as long as their actions continued, there must be a supply of the material which was thereby lost. The lecturer then proceeded to explain the necessity of various kinds of food for the proper nourishment of the body; showed the great need of improved knowledge of the qualities of food; and remarked, that the want of this knowledge was attended with fatal consequences to thousands who had arrived at mature years; but that to young children it was most disastrous: many children were brought to the brink of the grave through a want of the knowledge of the properties of food in those who had charge of them,—as by feeding a child, for example, exclusively on arrowroot or other forms of starch: a medical man, when called in to attend such a patient, would give it a little beef-tea or something of that kind.

It was owing to his knowledge of physiology, that Captain Cook was enabled to take his ship all round the world without losing a man: he knew the dependence of health upon diet, and carried out the principles of sanitary science as they are understood at the present day. It was through a knowledge of these laws that, in the British navy, they now never lost a man from scurvy. But, on the other hand, they found continually, on board the great hospital ship, the *Dreadnought*, cases of scurvy brought in, occurring amongst seamen belonging to the commercial vessels of all nations. Why, asked Dr. Lancaster, should the disease exist amongst one class of sailors, and not with others? Because there was not knowledge enough amongst those who had the management of our mercantile marine, to induce them to take means to prevent the disease. It must be remembered that he was advocating the study of physiology as a branch of general knowledge,—not merely for the more opulent classes of society, but for all,—for the sailor, soldier, housemaid, footman, all kinds of people. He intentionally and specially mentioned nursemaids; because they were entrusted with the duty of taking care of children. The laws of physiology should be taught in schools; so that girls might be able to understand the principles upon which life and health depended. They would not call in a person ignorant of the construction of a watch to regulate its movements; but yet they entrusted a mechanism a thousand times more complicated and delicate to persons utterly ignorant of its nature and requirements.

Amongst other remarks upon the movement and uses of the muscles, the lecturer showed the necessity of walking, and other healthy exercises; and said he believed that the volunteer movement caused the young men who had taken part in it to feel in better health, by reason of their long marches; and they walked more upright and looked stronger and heartier: such exercise would give health and strength, and act beneficially upon every part of the body. He wished he could say as much for the improvements effected in the habits of females. They encumbered themselves with heavy and inconvenient dresses, which must be a terrible drag upon their muscular system. He did not think that their present style of clothing was at all adapted to promote physical health. The present style of dress limited the quantity of oxygen which went into the lungs, and thus limited the amount of combustion and change necessary to health, and caused a tendency to one of the most dreadful diseases of the present day: he believed that a large proportion of the cases of consumption which prevailed amongst females arose from their vicious system of dressing: this evil, however, was not so bad as it was. He called their attention to this as one case in which there was a necessity for the application of physiological principles. Let it be clearly understood that there should be perfect freedom of muscular action, which ought not to be interfered with by dress. But the error in this respect was not confined to one sex: he objected to the neck-ties of gentlemen as being yet far too stiff; and also disapproved of several of the head-dresses used by the army. The hats, he remarked, commonly worn by the male part of the community, had much more material in them than was required for the purposes of utility: they were made of heavy cloth, and of the *most objectionable colour*—black. The study of physiology had shown the relation of colour to the external atmosphere, and to health. Black radiated the heat, and absorbed moisture; so that it was the coldest wear in winter, and the hottest in summer: a light white hat was the best, but few dared wear such a one. There were many objectionable things besides those mentioned in men's dress, and in women's also. The mode in which boots were made was perfectly ridiculous. The toes were pinched up for the purpose of giving a neat appearance to the foot; and what was the use of high heels? How absurd to talk of such boots as are now in use as being the perfection of beauty! He referred, by way of contrast, to the foot of the Medicean Venus. High-heeled shoes were dangerous things; for few persons could walk far with them without unduly exercising some muscles, and throwing others out of action, producing a description of lameness. Women ought not to walk in that artificial way; but naturally, lightly, trippingly, and gracefully. Neither were the boots of men by any means perfection: they were heavy and inelegant in shape: they might be much improved by a knowledge of physiology; but it would be of no use for a shoemaker to do so in the present prejudiced state of the public mind, for the public would not support him. We would not be the intelligent people we ought to be until these principles were taught in schools,—until boys and girls knew what the laws of their lives were, as well as they did the multiplication-table, and common sums in arithmetic. It was because he felt the great advantage of such knowledge that he strongly commended it to the public as a branch of general education.

After drawing attention at some length to the nervous system, Dr. Lankester concluded by remarking that it was life which made the world what it was: life had converted that which was a wilderness into a paradise: it was life that gave them all they valued as human beings; and just as that life was, therefore, multiplied and intensified; and as intelligence was increased; would society be benefited by the knowledge of physiology. There was no class in the community,—from the boy and the girl who attended Ragged Schools to the sons and daughters of the queen,—who would not receive benefit from studying the laws which regulated their existence.

THE ISLANDS IN THE BRITISH SEAS.

CONDITION OF ST. KILDA.

THE area of Great Britain and the islands in the British seas is 90,038 square miles. The area of England is 50,922; of Scotland, 31,324; of the islands in the British seas, 394 square miles. The forms of the islands are irregular, and do not approach simple geometrical figures, if we except England, which was not inaptly compared by the ancients to a triangle. The area of Great Britain is equal to a square of 226 miles to the side; Scotland to a square of 177 miles to the side; Wales to a square of 86 miles to the side; the islands in the British seas to a square of 20 miles to the side.

The chief islands in the British seas are the Isle of Man, Anglesey, the Scilly Islands, the Isle of Wight, Guernsey, Jersey, Lewis, Skye, the Orkney and Shetland Isles, Islay, Bute, Mull, &c.;—in all, five hundred islands and rocks; but inhabitants have only been found on about one hundred and seventy-five.

Several of these islands, in the earliest periods of our written history, were peopled by Celts. Britain was their Holy Island: it was the seat of their schools and of their most sacred groves. The Isles Anglesey and Man—both known under the name of Mona to the Romans—were seats of the Druidic hierarchy and worship. Iona, a small island in the Hebrides, which contains between four and five hundred inhabitants, was the station of Columba, who founded an order of missionaries, and contributed to the spread of Christianity over Britain. Holy Island, the Lindisfarne of the first Saxon historian, was a great centre of Saxon learning and religion, reflected from Ireland. It was the counterpart of Heligoland and Rugen, the shrines of the continental Saxons and Germans.

The greater part of the islands, and of points on the coast terminating in *ey*, *ay*, *a* (island), *ness* (promontory), *holm*, as well as others, bear names which the Northmen gave them; and were taken possession of chiefly for the purposes of commerce; but more commonly as naval stations, from which they could harry and tax the coasts and inland country.

An island was a market, a warehouse, a castle, to these Northmen, who bred round the Danish peninsula, the recesses of the Baltic, and the fiords of Norway; practised their arts as feudal farmers, fishermen, and merchants; forged anchors; built ships that lived in the Atlantic; fought incessantly along the coasts of their own country, from the Elbe to the Naze, to Drontheim, Lofoden Islands, Cape North; and, in the eighth century, and the centuries following, sailed in fleets, at one time down the east and west coasts of Great Britain; at another either round France, Portugal, and Spain, into the Mediterranean; or to Iceland and the coasts of North America. Men of the Atlantic in their ships—sea-horses, their ocean skates, as they called their craft — braved the dangers of the rocks and the waves at sea; the arms of Celts, Gaels, and Saxons, on land; and succeeded in effecting permanent settlements in France and England. As the Jutes and Saxons settled on the south coast, so the Danes held, and have left the most permanent traces in, Suffolk, Norfolk, Lincolnshire, Yorkshire, Northumberland, and the Lowlands of Scotland. The Norwegians for some time made the Orkneys the great centre of their expeditions.

Rollo, from whom William I. was the fifth in descent, was some time in the Orkneys before he conquered Normandy; and the Northmen from these islands extended their power over the Hebrides, Ireland, and the coast of France.

As the organization of the great nations on the mainland advanced, the relative power of the Northmen declined; and it was impossible that the inhabitants of the small islands round Britain could long resist the power of even the Gaelic population, which gradually recovered its ground, and diffused its language over the Hebrides and the Isle of Man. In Caithness, the Orkneys, and the Shetlands, the Norse language (as well as the men) held its ground, and has only latterly given way to pure English, while the Gaelic is spoken in the Highlands.

Many of these islands form parts of counties or parishes: for instance, the Isle of Wight is a part of Hampshire; the Scilly Islands, of Cornwall: Anglesey is a Welsh county: the Isles of Arran, Bute, and Cumbrae, constitute Bute a county of Scotland. In passing northwards, the islands over the sea, like the lakes inland, are all parts of Scottish counties. Islay, Jura, Mull, Coll, Canna, Rum, and Muck, belong to Argyll; Skye, Rona, Roasay, Scalpa, Soa, and Eigg, to Inverness.

St. Kilda is in the parish of Harris, although

it is about seventy miles from the mainland of the Western Hebrides. It rises 1,500 feet above the waves. Rocks and inaccessible precipices surround it, except at one point on the north side, where there is a rocky bay; and another on the south-east side, where there is a landing-place, which leads up to the village of St. Kilda—a quarter of a mile from the sea—in the sloping base of a steep hill. This is the only inhabited place in St. Kilda, and three other islands of the group, which are the resorts of the sea-fowls that, with fish and small patches of land, furnish food and employment for the inhabitants.

The population consists of thirty-two families, in thirty-two houses, and of 110 persons; of whom forty-eight are males and sixty-two females. There are thirty-three Gillieses, twenty-three M'Donalds, twenty M'Quiens, thirteen Fergusons, nine M'Crimons, two Morrisons, and one M'Cleod, who were all born on the island, except one woman, aged thirty-five—a M'Donald's wife, who was imported from Sutherland.

There are nineteen married couples on the island, two widowers, eight widows, five unmarried men, and five unmarried women, of the age of twenty and under forty-six. In the Registrar-General's report, the men are all called "farmers and bird-catchers," each "farmer" occupying about three acres of land: eight females are described as "weaveress" in "wool." The mildness of the air covers the island with verdure; but the crops of bere (a coarse barley) and oats are often destroyed by terrific storms. The proprietor sends a yearly supply of meat to the island, without which the inhabitants would often be in want, notwithstanding the little crop, the sea-fowl eggs, and all other resources of the place. It is traditionary that the population has been stationary for 200 years, sometimes falling below and sometimes rising above 100 souls: this, however, differs from the information given in the "Gazetteer of Scotland," which mentions that the number of adults was at one time reduced to four by smallpox; and cholera, in the first epidemic, was fatal in this remote region.

Thus these people, who enjoy the purest air of both the sea and the sky, perish with pestilence and disease. Children, in far too large a proportion, die of what is called the eight-day sickness. Nor is this to be wondered at, when we consider that the dwellings of these poor people, in Kilda, and in most of the western islands, are kept, through their ignorance, in a dirtier condition than the dens of wild beasts. There is a manse and a church, but no medical man; and there is no clergyman resident on the island.

CONVERSAZIONE, ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ON Wednesday evening last the President, Mr. Tite, M.P., and the Council of the Royal Institute of British Architects, gave a *conversazione* at the house of the Institute, in Conduit-street. The spacious galleries below were, on this occasion, also thrown open; and together with the rooms above were literally filled with pictures, carvings, china, and other works of art, including a remarkable collection of illuminated MS. belonging to the President. There were also Mr. E. Falkener's siculo moresque and other metal-work, and his interesting illustrations of life in Pompeii; Mr. Layard's manuscripts and frescoes; photographs of the works in the South Kensington Museum; drawings by Flaxman and A. W. Pugin; Owen Jones's original designs to illustrate Paradise and the Peri; Mr. Webb's collection of sculptured ivories; a head by Guido, and a Madonna and Child in marble, by Donatello; the Augsburg clock, and pieces of rare china, lent by Her Majesty; a series of Oriental arms contributed by the Secretary of State for India, and treasures of art drawn from the collection of the Marquis of D'Azeglio, Lord Lansdowne, Baron Rothschild, Sir John Hippisley; and Messrs. Morant, Addington, Beresford-Hope (including the famous ivory crosses and the brass lectern exhibited at Manchester), Bohn, Barker, Monro, Farrar, Franks, Manson, Holland, Fripp, Bell, W. Donaldson, Cooke, R.A., Henderson, Hansard, H. F. Hope, Street, Smirke, R.A., Cockerell, R.A., besides a roomful of drawings relating to the objects for which the Institute was founded.

In the collection of these, and preparations for the evening, several members of the Institute, especially Messrs. Papworth, C. C. Nelson, Norton, Bell, and Lewis, had devoted much time. In the arrangement they were chiefly assisted by Mr. Chaffers. About 500 persons were present, including, with those already named, and many ladies, Lord Wensleydale, Lord Hennicker, Dr. E. J. Gray, Sir F. Scott, Dr. Goodchild, Mr. Samuel Gregson, M.P., the Rev. R. Willis, Dr. Balfour, the Bishop of Lincoln, Archdeacon Hale, Mr. W. L. Donaldson, Mr. E. M. Barry, Sir Wm. S. Newton, Sir T. Wilson, Sir G. Everest, Sir Walter Stirling, Mr. Adam Black, M.P., the Rev. R. Burgess, Mr. John Webb, the Rev. Thomas Hugo, Mr. W. H. Carpenter, Captain D. Galton, Mr. Wm. Coningham, M.P., Mr. A. W. Franks, Mr. Beresford Hope, Sir Alexander Wood, Lord de Mauley, Colonel Sykes, M.P., Mr. S. Hart, R.A., Mr. Pickersgill, R.A., Mr. Joseph Bonomi, Mr. C. W. Cope, R.A., Mr. C. Robinson, Mr. J. H. Parker, Mr. James Holland, Mr. Samuel Addington, Mr. S. C. Hall, Mr. Ferrey, Mr. Kerr, Mr. Lucas, Mr. Cuthill, Dr. Spurgin, Mr. W. P. Griffith, Mr. Hakewill, Mr. Christian, Mr. W. Slater, Alderman Salomons, Mr. G. G. Scott, Mr. Truefitt, Mr. S. Godwin, Mr. Lightly, Mr. Joseph Clarke, Mr. E. Roberts, Mr. O. Hansard, Mr. C. H. Smith, Mr. Fergusson, Mr. Wilks, the Rev. M. Walcott, Mr. Wyatt Papworth, Mr. Allason, Mr. H. Baker, Mr. C. Mayhew, &c., &c.

The collection will remain open (to members' orders) this Friday, the 12th. The council have reason to congratulate themselves on the success of their *conversazione*.

RAGGED SCHOOLS.

Now that these establishments have come much into use, it is to be regretted, and indeed it is rather strange, that it should be still necessary, to say a word for their encouragement and their further extension. Such, however, is the case; for persons of high position and influence have of late given expression to an opinion that the number of the Ragged Schools are of no great advantage to the classes who are intended to be benefited by their means. This opinion, if allowed to pass uncontradicted, might damage a movement which depends for its success entirely on the voluntary contributions of numbers anxious to assist those classes who are badly situate; for a large portion of the contributors to the Ragged Schools have not the opportunity of obtaining practical knowledge of the extent of misery, ignorance, and vice, which exists amongst the great population of the metropolis, but are guided in a measure by the reports which are given to them by those who are supposed to have gained information by personally inspecting and carefully studying the manner in which the Ragged Schools act in poor neighbourhoods; it is therefore most important that no wrong impressions should be made.

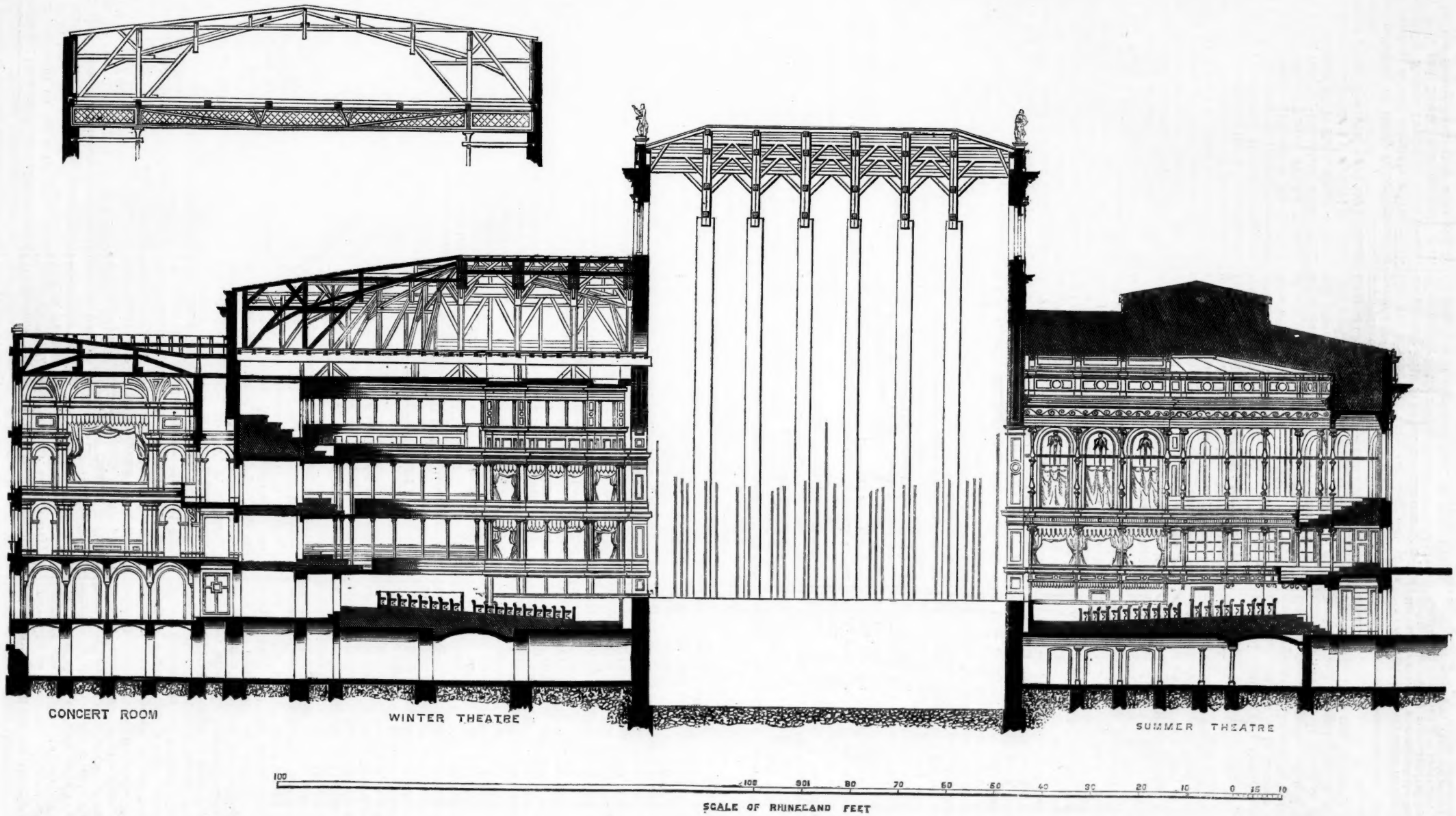
We well remember the establishment of the first Ragged Schools in London, and the predictions which were made that they would produce "a power of evil,"—that they would become places for the assemblage of young thieves, and nurseries of vice and wickedness: this, however, has *not* been found to be the case, for as the system has extended, we find that juvenile crime has rapidly abated. It would be wrong to attribute this beneficial change entirely to the schools; for, doubtless, the sentencing of youthful offenders to reformatories, and the plan by which they can be kept for such a time in these institutions as shall enable them to receive lessons in morality and habits of industry, have been a means of rooting out a great deal of wickedness. Careful observation, however, shows that the Ragged Schools also have already had, and still are exercising, a most beneficial influence.

During the last few years we have looked at many of these schools in various districts of the metropolis, and we learn from the masters, mistresses, clergymen, and even from the police, that the early fears respecting them have been groundless, and, in fact, that they have been productive of the reverse of evil; nor is this to be wondered at, when we consider the manner in which crime is chiefly led to amongst the children of the poor. Let us glance, for instance, at one of those neighbourhoods which have been so frequently, and with pain, referred to in the *Builder*,—at houses which contain eight or nine rooms, let to eight, nine, or more families. Swarms of children vegetate in these places; the atmosphere is polluted and dangerous. The parents are glad to get their little boys and girls into the streets, and they, for their own parts, are nothing loath to be out into the court, instead of remaining in the stifling rooms. In these places, on little bits of neglected land, in ruined buildings, and on spots out of the general view, small boys and girls, some of them scarcely beyond the age of infancy, assemble in the daytime; practised young thieves prowl about, gambling, or in other ways amusing themselves, until their ill-gained money is all lost, or the time arrives for proceeding to business. The swearing and ill-language are terrible to hear. Some of the youngest of these children have already had bad training in this respect, even in their miserable homes; others have not had so ill an example set to them; but, under such conditions as are here referred to, education of the most evil kind is commenced. The young are left for hours, and even for days, without care or superintendence; infant thieves train others into habits of thieving,—filch small articles from their parents first of all, and then from others. And in these localities there are larger boys, who become leaders of bands of pilferers, and who can readily dispose of matters to dishonest rag-dealers, unscrupulous pawnbrokers, and the abominable keepers of the "dolly shops," or "leaving shops." In most instances the parents are well aware of the bad consequences of these arrangements, and would gladly keep their children from mischief; but their clothes are old, and by years of inattention, and in consequence of the want of convenience in the dwellings, they have fallen into such states of dirt and neglect, that, even if they could manage to pay 3d. or 4d. a week at the National Schools, the children would be denied admission to such establishments.* It is in localities of this description that the Ragged Schools have been generally opened; and to these places boys and girls have willingly flocked: here, under the eye of earnest men and women, instead of amid the pollution to which we have referred, they are taught the principles of religious and social obligations; and, instead of having their mind vacant, it is kept employed, and ideas of mischief are driven away: at any rate, for so many hours of the day.

In carefully watching the progress of some of these schools from the time of their commencement until the present moment, it is to be observed that the masters and mistresses are singularly well adapted for the purpose of carrying out their important work; they cheerfully contend against difficulties, and patiently do the best with the rough material which it falls to their lot to improve. The change which soon takes place in the appearance of the children is remarkable; and, if the clothes are old, they are kept much cleaner; the hair is smoothed, and the skin well washed. As is the case with the National Schools, so is it with the Ragged, that it is, unfortunately, difficult to secure that extent of regular attendance which would ensure a fair amount of skill in reading, writing, and arithmetic; and this, we fear, will not speedily be altered, for the introduction of steam machinery into various branches of labour has caused, and is still causing, an increased demand for the work of youthful hands. Notwithstanding, even as regards the amount of general education given at the Ragged Schools, and the improvement in the habits of the scholars, both male and female, these are very satisfactory; and the parents themselves, in many cases, have been improved by the example of their children: moreover, deserving girls and youths are, in some instances, sent to industrial schools and reformatories; and exertions are made to get lads, who would have no chance upon the land, fitted for sea. So far as the means go, others are provided with decent clothing and recommended to situations. There are banks for small savings, and clothing and sick clubs. Young scholars, in illness, are not left neglected: the influence of the managers is used, in time of need, with the authorities of hospitals and public institutions: in fact, the Ragged Schools form a social bridge, affording a way out to a part of our population which otherwise would have been left in much worse darkness, ignorance, and danger than it is at present.

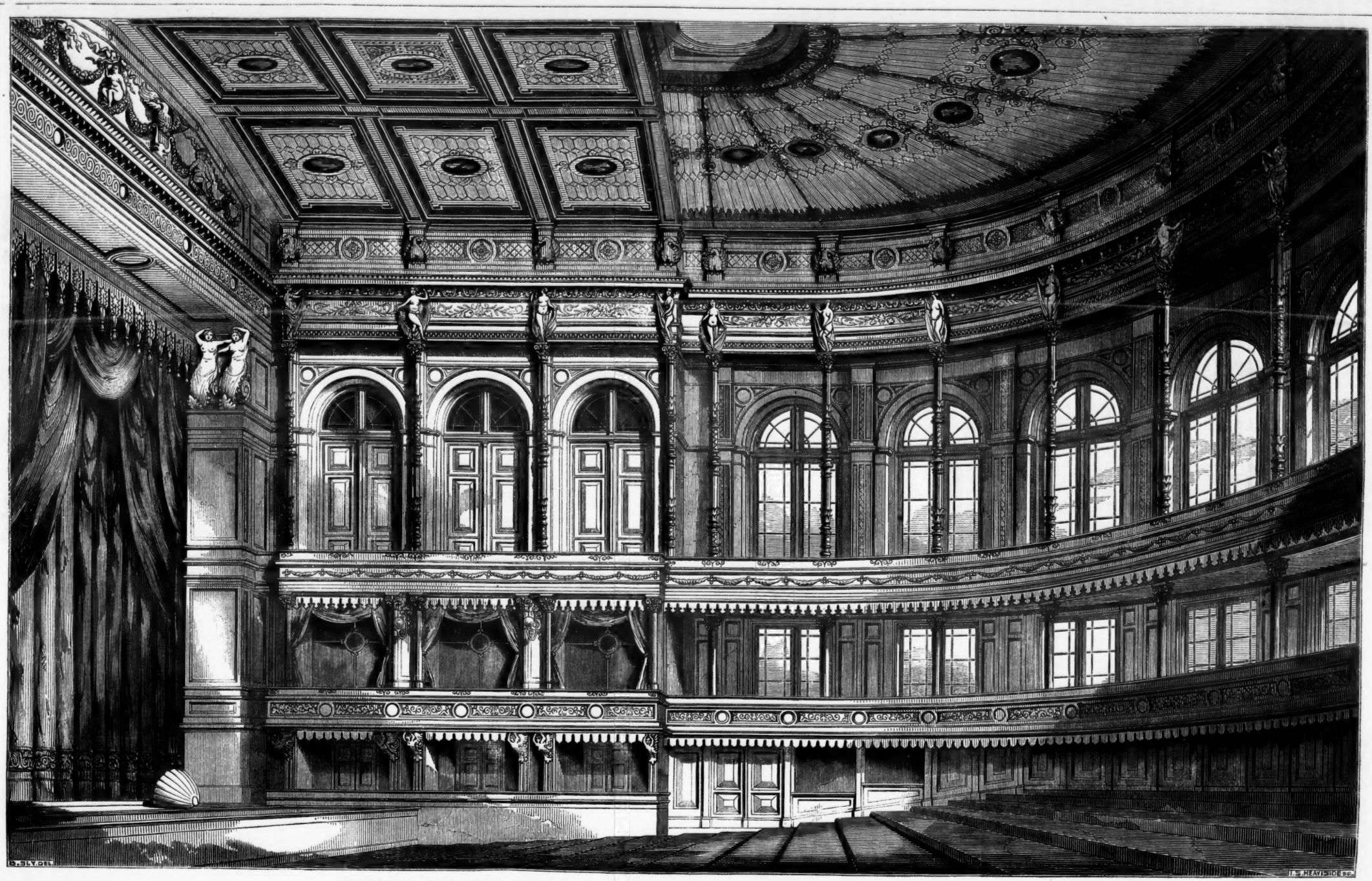
Believing that these schools are one of the powerful means which Providence, in these our days, has given to us to advance the civilisation and happiness of the multitude, it is with regret that, in recent reports, we find the system ill spoken of. There is plenty of scope for both National and Ragged Schools, and to advocate one system it is not necessary to decry the other.

* From careful inquiry made respecting the incomes of the parents of those who attend the Ragged Schools, we find that the weekly sums received by many heads of families are very small and uncertain. Dock labourers, when fully employed, earn not more than from 12s. to 13s. a week; and there are thousands of persons having families who are worse off, and for such persons to devote a shilling a week for schooling is almost an impossibility.



VICTORIA THEATRE, BERLIN.—*Longitudinal Section on Line A B on Plan.**

[* See p. 473, *ante*.



VICTORIA THEATRE, BERLIN.——*Interior of the Summer Theatre.*——HERR TITZ, ARCHITECT.*

[* See p. 473, *ante*.

ALDERSHOTT CAMP.

IT is now several years since the great military encampment at Aldershott was pitched. We remember the impressions caused by our first visits to this dreary and desolate spot—our surprise, mingled with some stronger feeling, at the extraordinary mismanagement, and either the want of true knowledge, or else a strange defiance of all sanitary laws. From time to time we have referred to these matters,—to the imperfect attempts at drainage, the folly of fixing the site of a camp for between 20,000 and 30,000 men, together with the various followers of such an army, on a spot, without having first ascertained the nature of the water supply and other necessities. Then, the huts and other arrangements were of a wrong description—erected without plan—and neither convenient for a short time of service, nor durable if required for more permanent use. We do not wonder, therefore, that the subject has been again brought under the notice of the Committee of Supplies, when a vote for 7,000*l.*, part of 40,000*l.*, was asked for stabling of a more permanent character than that at the present time existing in the Aldershott camp. During the discussion, in which Mr. B. Osborne and other gentlemen, both civil and military, took part, the House was reminded that this was intended, at the breaking out of the Crimean war, as a camp for the periodical summer exercise of certain bodies of troops, at a cost, for the purchase of land, of 100,000*l.* For this purpose, the Government purchased 7,000 acres of land at 20*l.* an acre, or about 150,000*l.*; but then the land was found to be a swamp, and no supply of wholesome water could be had. As our readers may remember, the wells were dug, and had to be filled in again. As we mentioned at the time, when the men were almost starving for water, thousands of gallons of excellent quality were running to waste from the high lands in the neighbourhood of Cæsar's Camp. After a tissue of unsuccessful and useless experiments, the services of Mr. Simpson, the civil engineer, were called for; and that gentleman succeeded in obtaining a water supply for the camp at a cost of 26,586*l.* Then, in 1854-5, there were expended 175,000*l.* for temporary huts: these proved neither air nor water tight: in consequence, 14,000*l.* were expended in covering them with felt; but that did not answer; so they had to be tarred, at another great expense: in fact, the cost of those huts up to this time amounts to the enormous sum of 496,000*l.*, half a million sterling; and yet these huts are in a state of rottenness and decay. Then came an estimate for the erection of a permanent barrack for 6,000: the estimates of 1856 showed a sum of 250,000*l.* for this purpose. But instead of selecting a site in some central portion of the land, a position was selected at the extreme verge, and then it was necessary to buy two additional acres of land for the erection of an hospital: the Government for this were obliged to pay 1,000*l.* an acre, for land which, in the first instance, could have been bought for 20*l.* an acre. The barracks here constructed are defective in their arrangements. Respecting these, Mr. Osborne remarks that "They are most defective and most expensive; and during the month of May they were nearly burnt down, owing to their bad internal arrangements. The cooking apparatus had been placed under the soldiers' rooms, and lifts had been made for the purpose of sending up the men's dinners; but they were never used, as it was found out that the cook-houses were of no use but to roast the men in their rooms, summer and winter." Iron cooking-stoves had been purchased for 20,000 men; but they turned out to be of no use, and were condemned and sold for "old iron." Then Captain Grant, who had established an effective cooking apparatus for 50,000 men, was superseded by a Mr. Warrener, who was styled the "Inspector of Military Cooking;" and his apparatus was tried, and it had been said that the machinery in use was more calculated for Westminster Palace Hotel than for military cooking.

Then the barrack grates,—3,000 of them were purchased at 3*l.* 10s. each. These, however, proved so useless, that it was necessary to condemn them and dispose of them as old iron. The cost of taking down and replacing the new grates raised the price of them to 7*l.* 10s. for each grate. There are other matters which might be mentioned: it is however, we think, sufficient to show that this camp has already—instead of the 100,000*l.* at first proposed—cost the country one million and a half of money.

Colonel North, after making some remarks on the stoves, deprecated the employment of military engineers in the erection of buildings. They then became, he said, very inferior members of a very honourable profession. Mr. Monsell and Sir Joseph Paxton both remarked that the barracks were the cheapest which had been erected. The latter gentleman, however, declared that they should have been built in a more central situation.

Considering the enormous charges which have mounted up in connection with this camp, it is clear that those engaged in its arrangement have been "penny wise and pound foolish;" and it would have been found to be a saving of many thousands of pounds if skilful professional advice had been called in, and a fair amount of cost incurred in the first instance. On this point Mr. H. Lewis was of opinion that as they had been obliged to call in the services of Mr. Simpson, an eminent civil engineer, it was really a question whether, upon all such occasions, and when sanitary considerations are involved, the Government ought to depend upon the services of the Royal Engineers; or whether they ought not to devolve the fulfilment of the work on a mixed commission of civil and military engineers.

Captain Jervis remarked that while the cheapest lunatic asylum in the country—that at Hampshire—was constructed at a cost of 150*l.* per patient, the barracks at Aldershott were raised at a cost of about 60*l.* per head, and there are 19,000 men in huts which are unfit for human habitation; and which, as a matter of course, will be shortly removed. The subject is one most unpleasant to reflect upon. Another honourable member supported the vote because the camp at Aldershott had grown to such an extent that they did not know where it would stop. If this be the case, the sooner the matter is taken into proper consideration the better. We wish to see wholesome barracks provided, at any reasonable amount of cost, for the British soldier, both at home and abroad, but not that enormous sums should be wasted on experiments which can only end in inconvenience and disappointment.

SURVEYORSHIP, ST. GEORGE'S, HANOVER SQUARE.

ABOUT three months ago, the assessorship to the parish of St. George's, Hanover-square, and the surveyorship to the governors and directors of the poor, having become vacant by the death of the late surveyor, the following gentlemen were named candidates, and polled as follows for the assessorship:—

Mr. Sydney Howell, Gloucester-street ..	23
Mr. Charles Lee, Golden-square	19
Mr. John Turner, Wilton-street	17
Mr. Harris	1

On the 3rd inst. the second appointment was made. The votes were:—

Mr. Sydney Howell	6
Mr. John Turner	5
Mr. Harris	4
Mr. W. R. Gritten	1

GUILDFORD COUNTY HALLS AND ASSIZE COURTS COMPETITION.

THIS competition was decided on Thursday last, by a poll of the shareholders: at the close of which there appeared for "Non Sine Labore," 518; "Onward and Upward," 426; "Utility," 7; "Hope," 2. The first was declared selected, and was found to be by Mr. T. Goodchild, of Guildford, architect. The works are to be proceeded with forthwith.

SIR,—You will be surprised, after hearing that the committee appointed by the shareholders had selected the design bearing the motto "Hope," to learn that another plan has been adopted.

It may not be uninteresting to your readers to know the treatment which non-resident competitors, in this, and we fear in many other competitions, are subjected to.

As you are aware, a public competition was advertised in the *Builder*. As usual, several architects responded to the call, and at a meeting of the shareholders a committee of taste was appointed to examine the various plans, and report which was most suitable for the purposes required. This they did, and reported at the next meeting of the shareholders that their choice had fallen on the one bearing the motto "Hope," as the one most in accordance with the instructions issued, and more likely to be executed for the money (3,000*l.*) than any of the others. After this report had been received, three other designs were brought forward, and a poll of the shareholders demanded for each, thus ignoring entirely the work of the committee. You will at once see the advantage gained by the local architects, who were probably known personally to the greater part of the shareholders; and although the sealed envelopes containing the names of the competitors had not been opened, a *personal* canvass was at once commenced by one or more of the local competitors. It became from that time a party contest, and a county paper says great excitement prevailed in the town on the polling day, as so evenly were they balanced, that it was uncertain whether "Non sine Labore" (the successful plan) or "Upwards and Onwards" would gain the victory. Nearly all the votes were given to the canvassing parties. The instructions to architects contained a clause to this effect:—

"Should no builder be found who will execute the work for the sum specified, no commission will be paid unless a contractor can be found by the architect satisfactory to the committee who will do so."

It remains now to be seen how far good faith will be kept with the competitors in this respect; and we believe it is doubtful whether the design which obtained the majority of votes can be carried out for anything like the sum specified. The competition has not hitherto been carried out in that spirit of fairness which we had every reason to expect it would have been; and doubtless, this difficulty, which will assuredly present itself, will be passed over as of no consequence whatever. "HOPE."

P.S. The following we believe to be a correct list of the mottoes and authors of the four plans referred to above:—"Hope," Messrs. Hooker & Wheeler, Brewchley, Kent; "Non sine Labore," Mr. T. Goodchild, Guildford; "Upward and Onward," Mr. Peake, Guildford; "Utility," Mr. Pocock, London.

THE FOREIGN OFFICE DESIGNS.

IN the Commons, on the 8th inst., before the House went into committee of supply, a long and amusing discussion took place on the question (if it can still be called a question) of the style of the design for the new Foreign Office; involving, of course, a re-consideration of the respective merits of the Gothic and Italian styles of architecture.

Lord Elcho moved—

"That in the opinion of this House it is not desirable that the new Foreign Office should be erected according to the Palladian design now exhibited in a committee-room of the House."

His lordship commented with some severity upon what he called the Palmerstonian style of architecture, and urged that Mr. Scott's design, or rather Lord Palmerston's, was altogether unsuited to the country, the climate, and the purpose to which it was to be devoted; and that a pure Gothic (not the abuse of Gothic, as in the case of the new Houses of Parliament) was that of which the country would approve. Mr. Scott, he thought, had fallen into error in allowing himself to act as the mere draughtsman of the noble lord at the head of the Government, who was, in truth, the practical designer in this case. The Crown Life Assurance Office, in Bridge-street, Blackfriars, from the design of the late Mr. Benjamin Woodward, was, in his opinion, a favourable specimen of what might be done in the way of Gothic street architecture. He called upon Lord Palmerston to give up his Italian notions of art, which were at a deplorable discount, and consent to build the new public offices for the rising and not for the setting generation.

Mr. Buxton seconded the motion. He predicted that the style chosen would be execrated by the public.

Mr. Cowper defended the department of which he is the head, and denied that Classic architecture was at a discount. People, he said, were very apt to call their own opinion the public opinion; but he undertook to say that 20 to 1 preferred an Italian building to a Gothic. Traverse the metropolis from north to south, and you will find nothing but Italian buildings; and a Government building, such as the Foreign Office, as the culminating point of the whole, ought to harmonize with the rest. Illustrious architects and other competent persons had told him that Mr. Scott's Palladian design did him the greatest credit, and it was unfair to Mr. Scott to give any one else the credit of his design.

Mr. Layard said it appeared strange to him that in this nineteenth century this country should have made such little progress in the style of architecture. The architects seemed to desire to follow all the styles which had gone before, rather than to design anything approaching what was new. Let them take that house as an instance. It swarmed with the most hideous forms, and might be called "the Gorilla style." If they took the Classic style, they would find it surrounded by colonnades which wholly excluded the light of the sun. As regarded light, he believed that no style was better adapted for its admission than the Gothic. Mr. Layard then referred to the new public buildings at Hamburg, and the Townhall at Cremona—Gothic buildings—as being among the finest buildings of modern times. He objected to the Palladian style because it was mean in design, monotonous, and unsuitable to the streets of London, and because it could not be carried out as it ought to be. Towers were inadmissible, and ornamentation was not allowed. He hoped that the style of the terraces in the Regent's-park and the neighbourhood would not be brought into this district. Anybody who now saw the streets of Paris would experience the force of his objections. They were built upon one plan; and from these buildings strangers might discover that the Government of France was a despotism. The other plans in the Tea-room deserved great attention because in them were considerable beauties. He would recommend that the design of Mr. Scott

should be referred to a committee of gentlemen, members of that house, who understood the matter, and who would be able to point out improvements. Mr. Scott, he understood, was willing to do this. If some alterations were made in the Gothic plan, he believed it would meet with the approbation of the House and of the country. That which was most required was colour; and the different quarries of the country would afford abundant materials from which a really fine and beautiful building could be erected, one which would satisfy the House and the country.

Mr. Tite ridiculed the notion of introducing colour into Gothic buildings. It was about the most monstrous proposition he had ever heard in connection with Gothic architecture; and he challenged the hon. member to point out any Gothic building of repute in which one particle of colour was to be found. The introduction of terra-cotta into structures of the Gothic character would be a great misfortune and mistake. The entire of the terra-cotta work in Milan was devoted to the Palladian style of architecture. He considered his friend Mr. Scott was quite as much distinguished in Italian designs as in Gothic: indeed, any well-informed architect ought to succeed as well in one style of architecture as in another. In his opinion, Sir Charles Barry had accomplished in the building of that house all that the most gifted architect could do; regard being had to the style in which he had to work. In the year 1858, a deputation of the most eminent architects, including Mr. Smirke, Mr. Cockerell, and many others, saw the noble lord at the head of the Government, and expressed to him their obligations for his determination against the carrying out of the Gothic plan for the new Foreign Office. Sir Charles Barry himself said that the plan ought not to be adopted. Of the 218 designs sent in, only 15 were in the Gothic style; and all the first prizes were awarded to Italian architecture. Having quoted the opinion of Mr. Ruskin in favour of the Italian style of architecture, the hon. member expressed a hope that the matter would be left in the hands of the executive Government. If that were done, he felt satisfied that the new Foreign Office would be no disgrace to England; but, on the contrary, they would have a fine building, adapted to the purposes for which it was intended. The Gothic style of architecture was the right thing, in the right place; but that place was not the House of Commons, or the Foreign Office.

Lord John Manners complained that when Lord Palmerston returned to office he had arbitrarily ignored the designs approved and selected by the former Government, and that he had compelled Mr. Gilbert Scott, a master of Gothic architecture, to design a building in the Palladian style.

Mr. Osborne expressed his opinion that of all tribunals in matters of taste the House of Commons was the very worst. Gentlemen talked about different styles, about the horizontal and the perpendicular,—when the country was looking to the question what would the building cost? It happened that in 1855 Mr. Pennethorne, the architect and surveyor of the Board of Works, was called upon to submit a plan for the new Foreign Office; and what was the estimate for his plan? It was 60,000*l.* for the building and 30,000*l.* for the purchase of the site. The House of Commons of that day was so singularly sparing of the public money that when they were called upon for this vote, they refused to grant it, and voted 10,000*l.* for patching up the old buildings. What was the estimate of the money they were called upon to provide for this building? It was 200,000*l.* But did the House believe it would be built for that, whatever style was adopted? He did not think the question had been properly treated by the House. When the competition for the design was thrown open it was thrown open to all the world, and a large premium was offered for the best design. The first premium was awarded to Messrs. Coe & Hofland, and the second on the list were Messrs. Banks & Barry; but in consequence of Mr. Scott, who had, it was true, a European celebrity as a Gothic architect, being second in the competition, he was, by some curious hocus pocus, put forward between the two gentlemen who obtained the first premiums and the noble lord (Lord J. Manners), who was a devotee in the Gothic school. If the House were to treat this subject properly some one would move an amendment, and say "A plague on both your Houses."

Lord Palmerston, in a humorous speech, explained the nature of the negotiations which had taken place between himself and Mr. Scott, and which resulted in the Palladian design as condemned by Lord Elcho. That design was, in his (Lord Palmerston's) opinion, the most desirable, regard being had to the secular purposes to which it was to be applied, and to the surrounding buildings. The town halls and other fine buildings lately erected in Liverpool and other large towns in the provinces proved that the public taste was in favour of Classic architecture. He hoped the House would not, by agreeing to the motion, delay the execution of the works, which were urgently required for the public service.

On a division the motion was rejected by 188 to 95.

The House then went into committee of supply, and resumed the consideration of the civil service estimates.

A vote of 30,000*l.* on account of the new Foreign-office led to a revival of the discussion, in the course of which Mr. Osborne and other members commented upon the indefinite nature of the expenditure on public buildings generally, and expressed their disapprobation of the costly and unsatisfactory nature of such works.

Mr. Cowper stated that the 200,000*l.* which it was proposed to spend on the Foreign-office would not include either the Colonial Office or the establishment for the Secretary of State for India. No official residence for the Foreign Minister was contemplated.

Lord Palmerston, in course of his additional remarks, said that, as to the elevation, it might be assumed that that was now decided upon. It was not as ornamented as the elevations of the other plans; but, although it might not be very magnificent or splendid, it would be handsome enough for the purposes. The expense would depend, of course, upon the amount of space to be occupied by buildings, and the elevation. They would save nothing by postponing the vote from year to year; and the sooner they began the work, the sooner it would be finished, and the expense and inconvenience of the present arrangement would be got rid of.

The vote was ultimately agreed to.

ELECTRO-TELEGRAPHIC PROGRESS.

SOME time ago it was announced that M. Bonelli, an engineer at Milan, had invented a new mode of transmitting messages by telegraph infinitely superior to anything hitherto known. He has taken a patent out for it in this country; and so persuaded are opulent parties in Manchester of its success, that as a company they have already laid down wires on the canal as far as Runcorn, and are continuing them across the river to Liverpool; and in a few weeks the works will be in operation. The message is to be presented printed, and at a charge of sixpence!——The Telegraph to the Channel Islands has again been suddenly stopped by the breaking of the wire.——The International Telegraph Company of London have obtained permission from the French Government to establish an electric communication between Dieppe and Newhaven, and the cable has been laid after a temporary misadventure. The International Company intends to transmit despatches by the Dieppe line to any part of Great Britain or Ireland for 3 f., in place of 7 f. 50 c., the charge made for sending messages by way of Boulogne and Calais.——Messages can now be sent from London through Russia to China, the route being to Kasan, thence *viâ* Kiachta to Pekin, either by post or by estafette from Kasan to Kiachta, and thence to Pekin. The charges are as follow:—A message of twenty words to Kasan, 1*l.* 2s.; Kasan to Kiachta, twenty-three days' post, and to Pekin, fourteen days', 8s. If sent by estafette the time saved will be eight days, but the expense increased by 26*l.*

BIRMINGHAM CEMETERY.

THE new cemetery, which will cost in all about 30,000*l.*, has been progressing for the last twelve months, and is now approaching towards completion. The area is at present 60 acres, although 105 have been purchased. The chapels will shortly be erected. Having obtained the site, the committee invited architects and landscape gardeners to send in designs, plans, sections, and estimates, for the erection of chapels, lodges, and offices, and the fencing, laying out, and planting of the cemetery. Premiums of 50*l.*, 30*l.*, and 20*l.* were offered for the best, and second, and third best architectural designs, and of 30*l.*, 20*l.*, and 10*l.* for designs for laying out the grounds. For the latter ten designs were received; and the three selected by the committee were those of Mr. Ashwell, of Coventry, estimated cost 3,010*l.*; Mr. G. Stokes, London, estimated cost 3,133*l.*; and Mr. Davidson, London, estimated cost 2,500*l.* A design was then prepared by the borough surveyor, in conjuction with Mr. Ashwell; and the offer of the latter to superintend the laying out, planting, and forming the grounds, for a commission of five per cent. upon the total outlay, was accepted. The requisite number of workmen were then engaged; but it was deemed advisable that the laying out, draining, and formation of the walks and drives, with the exception of those immediately adjacent to the buildings, should be done by contract; and the tender of Messrs. W. and T. Sidwell, of Birmingham, for the performance of the work for 1,250*l.*, was accepted by the committee. The draining of the land, laying out, and planting, are now nearly completed. The ground has been laid out into squares as far as practicable, and the cemetery will be entered from Moor-lane, by avenues on either side, 24 feet wide, leading to the two chapels about to be erected. The whole ground is intersected with walks from 8 feet to 10 wide, the united length of which is 3½ miles, and planted with hollies, scarlet thorn, weeping ash, &c. For the chapels and other buildings to be erected twenty designs were received; and the three selected as possessing the greatest merit were those of Mr. Clarke, of Nottingham, to whom was awarded the first prize of 50*l.*; Mr. Warden, who received 30*l.* for the second best; and Mr. Holmes, who received 20*l.* for the third. After an examination of the design, and conferring with Mr. Stevens, of Derby, the committee decided upon adopting the design of Mr. Clarke; and that gentleman was empowered to superintend the erection of the works. Tenders were then solicited for the buildings: the competitors met at the office of the borough surveyor: Mr. H. J. Cox was by consent selected to take out quantities; and a contract was entered into with Mr. Wright, of Nottingham, for the erection of the buildings, at a cost of 5,820*l.*; his tender being the lowest of eleven presented. The structure, as at present arranged, will consist of two chapels, one termed the Episcopal Chapel and the other the Dissenters', each capable of accommodating 200 persons, with vestry, one reception, and two waiting rooms, the latter to admit of further extension.

The cost of these chapels, which are to be built of Hampstead stone with Bath stone dressings, is not to exceed 2,000*l.* each.

SHIP ARMOUR PLATE MANUFACTORY.

MESSRS. J. BROWN & Co., of the Atlas Steel and Spring Works, Sheffield, have commenced the manufacture of rolled iron armour plates, in the execution of a commission from the Government. They have extended their manufactory by a tunnel under the Midland railway to a large piece of ground lying on its north side, between it and Saville-street. Here, within these two years, has sprung up a new portion of their works, occupying 10½ acres, of which seven acres are covered with buildings.

The new portion of the works (though about one-third of them yet remain to be completed) have consumed 12,000,000 ordinary bricks, and 2,000,000 fire bricks. This newly occupied ground contains already sixty-two furnaces, to the majority of which there is attached a steam engine boiler. Thus the heat of the furnace generates steam without any further expenditure of fuel, and the steam is conveyed in pipes, laid in trenches lined with fire-bricks, to the various engines it is to work. Four chimneys, 45 yards high, receive, through underground-flues made of fire-brick, the smoke of the various furnaces; but the smoke of each furnace is for the most part deprived of its carbon by passing through other furnaces on its way to the chimney.

The armour-plates, in what may be called their embryo state, consist of a number of slabs of bar iron, measuring about 30 inches by 12, and 1½ inch thick. Four of these, being laid upon one another and heated in a furnace, are rolled into a plate measuring about 4 feet square. The advantage of the process of rolling is, that it preserves the fibre of the metal. By using iron of different kinds of fibre, and putting together plates rolled both ways, so that the fibres shall cross each other, it is believed the greatest possible amount of resistance is obtained. The plates produced in the way described are brought together step by step till there are at last four plates measuring 10 feet by 4 feet 4 inches, and each 2½ inches thick. These four, welded and rolled together by one great final operation, make the massive armour plate of six tons, measuring 20 feet long, 4 feet 4 inches broad, 4½ inches thick, weighing 180 lbs. per square foot, and composed in each part of 132 thicknesses of

iron. All the difficulties of the undertaking, it is said, have been surmounted, and the plates can be supplied as fast as they are required.

STAINED GLASS.

Waltham.—Three memorial windows, designed by Mr. E. Jones, have been inserted in the east end of Harold's church of Waltham, the eight-hundred-and-first anniversary of the consecration of which was lately celebrated.

Hayton Church (*Notts*).—Another stained glass window, from the establishment of Mr. Wailes, of Newcastle, has been placed in the parish church at Hayton. There are no pictorial subjects introduced. The window is a memorial one.

Cheadle Church.—The parish church of Cheadle has been enriched by the erection of a new east window, of the same style of architecture with the rest of the church. This window has been filled with painted glass by Messrs. Edmundson & Son, of Manchester. Of the five lights into which the lower part of the window is divided the three central ones are occupied by one subject,—the Crucifixion. Of the two side lights, each contains two subjects,—the Nativity and the Baptism on the left, the Last Supper and the Resurrection on the right. In the tracery of the window two angels and the four evangelists occupy prominent positions.

Holbeck Church.—A stained glass single-lighted window has been put up by Messrs. Edmundson & Son, of Manchester, on the south side of the chancel of this church. It contains a figure of St. John, under Early Decorated canopy work, and is the gift of Mr. and Mrs. Marsh, who gave the east window. Subjects:—Christ blessing little Children, with the Resurrection on one side and the Ascension on the other.

Byker Church (*Newcastle-upon-Tyne*).—Mr. Wailes has offered to fill with stained glass one light of a window in the south of the chancel of this church, in memory of the Rev. R. Green, late master of the Hospital of St. Mary the Virgin, and for thirty years incumbent of All Saints' parish, out of which the ecclesiastical district of Byker was formed. The other light of the window will be filled with stained glass at the expense of the late rev. gentleman's family, in memory of their mother.

CHURCH-BUILDING NEWS.

Hornsey Rise.—The new church of St. Mary, Hornsey-rise, being now completed (excepting the tower and spire), was on Thursday, the 20th ult., consecrated by the Bishop of London. The new edifice is built with Kentish rag-stone and Bath stone. The arrangement is that of nave, north and south transepts, north and south aisles and chancel, with small chancel chapels; that on the north side being occupied by the organ, on the south side in the vestry. The length internally is 103 feet; greatest width at the transepts, 75 feet; and width of nave and side aisles, 58 feet: the altitude of the nave is 50 feet. The edifice has accommodation on the ground floor for 756 persons, but preparations have been made by the architect for galleries to be erected at the west end, and in one of the side chapels near the chancel, should enlarged sitting-room be ultimately required. The roofs are open-timbered throughout, with boarding and cornices stained and varnished. The main timbers spring from curved braces, resting upon stone vaulting shafts, with carved caps and corbels. The nave is separated from the aisles by a series of stone arches, supported on octangular stone piers, with foliated capitals. The chancel-arch is moulded with ball-flower enrichments, and supported on clustered vaulting shafts, springing out of the splayed jambs, with carved caps and corbels. The transepts are separated from the chancel chapels by stone parcloses or screens, the tracery heads being deeply cut and moulded, supported upon small circular clustered shafts, with moulded bases and carved foliated capitals. The lower part of the chancel is lined with stone. The seats are all open benches, stained and varnished. The church has been executed from the designs and under the direction of Mr. A. D. Gough, architect. Mr. G. C. Carter, builder, Hornsey-road, was the general contractor, who has carried out the various works, under the superintendence of the architect.

Wokingham.—The new Baptist chapel here has been opened. The new buildings consist of chapel, 41½ feet wide and 54½ feet long, exclusive of lobbies; a lecture-room, 32 feet by 20 feet; and a private vestry for the minister. The chapel is intended to seat 400 persons on the ground-floor, and 200 in a gallery over the entrance lobbies. The design is prepared to admit of side galleries being added when required. The style of the building is Italian, freely treated in the general arrangements and combination of the materials of which it is erected; viz., red and white bricks and stone; the white bricks being mostly in bands and arches; stone being used to protect the projections of cornices, &c., and also as borders in the arches. All the windows have ornamental cast-iron sashes, glazed with ground glass. The interior of the building is simple. The floor of the chapel is made to incline from the entrance. The seats are low, with plain bench ends, and are without doors. The whole of the woodwork internally is stained and varnished. The chapel is heated by Mr. Haden's patent system, with which is comprised a general plan for the ventilation. The graveyard around has been re-arranged. The total cost of the building, including heating, architects' commission, &c., will be about 1,600*l.* The design was prepared by Messrs. Poulton & Woodman, of Reading, architects; and the works have been executed, under their superintendence, by Mr. John Wells, of the same town, whose tender was accepted in a limited competition with the neighbouring builders.

Oxford.—The work of restoring the Church of St. Mary the Virgin has been intrusted to Mr. Gardiner, builder, of this city. The contract, according to the local *Herald*, was offered to five builders recommended by the architect. Mr. Gardiner had been previously employed in the repairing of the tower and spire. The porch, well known as "Laud's Porch," will be protected from injury during the restoration. The architect employed is Mr. Scott, and Mr. Buckridge is clerk of the works. The members of convocation have voted 3,900*l.* to carry out the restorations, to which Oriel College (the patrons of the living) have added 1,000*l.*, and the parish 850*l.* The total estimated cost was 5,400*l.*

Higham.—The new church at Higham has been consecrated. The edifice has been erected from the designs of Mr. Scott, at a cost of about 3,600*l.*, of which 400*l.* are still due. It is dedicated by the title of St. Stephen the Protomartyr. The arrangement of the plan consists of a nave and north aisle, 50 feet long, the former 19 feet, the latter 10 feet in width, separated by an arcade of four bays; a chancel, 28 feet long by 16 feet 4 inches wide, with organ chamber and vestry added, as a kind of continuation of the aisle, alongside of the chancel. The south wall of the nave and the east end of the chancel are 2 feet 9 inches in thickness, and all the other walls are 2 feet 6 inches thick. There are a south porch and a circular tower at the west end of the church. In this case the architect has seized upon a local architectural peculiarity, Snailwell, Risby, and Little Saxham being in the immediate neighbourhood. Attached to the tower, in the angle between it and the church, is a staircase to the ringing-floor, which is also circular, and shows as such externally. The diameter of the tower at the ground level is 20 feet, the walls being 4 feet thick; and in its elevation it is divided into three stages; the lower (open to the church, and eventually to be groined in stone) serving as a baptistery. The intermediate stage is the ringing-floor, which is only distinguished outside by the narrow windows which light it. Above this story is a set-off, upon which, when the tower is finished, will stand the bases of a series of columns and arches surrounding the belfry-stage. The belfry windows will be single lights, four in number, and facing the cardinal points. A corbelled cornice and parapet complete the design of the tower itself, which is intended to be crowned with a low conical roof, having four lucarnes, and covered, like the rest of the church, with tiles. Among the principal features of the church must be named the east window, which is of three lights, set in a thick wall, and moulded and shafted, the shafts within being of Purbeck marble, and having carved foliated caps. In the head of the window are three circles, two of which are cusped with sexfoils, and one with a cinqfoil. The south windows, both of nave and chancel, are all of two lights, of the same character as the design of the east window. The west window of the aisle is also similar; but the other windows, being under lean-to roofs, are less important in size and appearance. The tracery of these windows is that designated by Professor Willis as *plate* tracery; and the style of architecture is of the transition period from the Early English to the Decorated. The seats are of open framing,—in the nave of red pine, and in the chancel of oak, a large proportion (163, including seats for children) being free and unappropriated. The total accommodation is about 231 sittings. The walls are, throughout, of flint, with bandings and dressings of Ancaster stone. The walling and masonry were executed by Messrs. Holland, of Gazeley; and the wood porch-work, as also the carving generally, by Messrs. Rattee & Kett, of Cambridge. The pulpit and font were executed by Mr. Farmer, of London, and the reredos by Mr. Field, of London.

SEALING WAX: QUERIES.

WILL one of your correspondents tell me of what the vessel is composed in which manufacturers make their sealing-wax? for, surely, not every material would answer, inasmuch as there would be an endeavour to prevent as much as possible any waste from the ingredients adhering to the sides. This inquiry is made to ascertain in what sort of small vessel an amateur could dissolve any fancy-coloured wax, and even white; so that there should not be any cloud in the impression made by the seal.

It is generally recommended to hold the wax above the flame, and then turn the stick round and round on the envelope; but by this plan the wax soon becomes cold, and a thick clumsy-looking seal is made after all. Could the wax be dissolved in any spirit and then applied to the envelope; and after the seal has been pressed upon it to remove it as in making a common impression, and so leaving it to set firmer as the spirit evaporates? To seal in the ordinary way, with fancy-coloured wax, a hundred or so of envelops upon a special occasion, would take up a great deal of time. How is the sealing of the letter-bags in the large post-offices managed? D. D.

SPONTANEOUS FIRES.

DURING the warmer part of the last wet season, you called attention to the unusual number of destructive fires originating in spontaneous combustion. Having had occasion at the same period to make some observations on spontaneous combustion, in the columns of a local newspaper, I at the same time suggested through your columns the desirableness of some of our numerous scientific bodies instituting an inquiry, with the view of discovering and making known all the conditions favourable to spontaneous combustion. The present is, perhaps, a favourable opportunity for again calling attention to this subject.

Masses of combustible material are most liable to take fire spontaneously under the following among other conditions:—

When the weather is warm, and especially at the same time moist.

When portions of the material are damp, or contain oil or grease, or other matters liable to decompose.

When portions of the material are damaged, or partially decomposed.

When portions of the material contain sulphur, phosphorus, saltpetre, or other substances capable of igniting at a low temperature.

Combustible materials when perfectly free from the above conditions may be safely stored in large masses; but, as this very rarely happens, such masses are seldom safe during warm or damp weather. A low species of combustion, without flame, is originated in such masses in the first place; which gradually raises the temperature of the interior until ordinary combustion is induced. As a considerable period is required to raise the temperature to the igniting point, some simple means of revealing the temperature of the interior of the mass becomes an important desideratum. I beg to enclose a sketch of a simple and inexpensive apparatus, which I believe would be found to answer this end; and which, if adopted, would probably prevent many destructive fires in originating from this and other causes, by giving timely notice of their presence.

The apparatus consists of a common strong bottle, of any convenient size or shape, having a piece of common gas-piping firmly inverted into the neck of the bottle, and a common glass-tube attached to the end of the gas-pipe. If the bottle be partially filled with water, this apparatus would become a rude thermometer; and (being placed in the combustible material) the rising of the liquid in the glass-tube would roughly indicate the temperature of the mass at the point where the bottle was placed. The bore of the glass-tube must be sufficiently wide to prevent the ordinary changes of temperature from raising the liquid in the glass-tube above the point marked cool. As the apparatus would not be required to measure small variations of temperature, the tube could be left open, and a little oil poured upon the water in the glass-tube to prevent evaporation.

The public are at liberty to use the apparatus if they think proper; and I have little doubt that many destructive fires might be prevented were insurance companies to insist on a few of them being placed in all masses of combustible material; especially during the warmer months of summer. Any intelligent gasfitter would be quite competent to fit up the apparatus wherever it was required. W. PATERSON.

WORKMEN'S ORGANIZATION.

SIR,—As you have given some prominence to a letter respecting workmen's organization, will you allow a mechanic to say a few words on the same subject? Your correspondent proposes the formation of a society which should not be allowed to interfere in any way concerning the hours or wages of labour. I think, however, that it would be hardly possible to form a society, consisting of any one trade, which should not at times discuss the terms of employment in that trade; and, even if it were, would it be just to deny to workmen that right of combination which is allowed to, and used by, the employers?

I think we want, not a society which shall take no cognizance whatever of trade disputes, but one that shall not be so ready to begin them, and that shall carry them on as reasonably as possible, if they should be unavoidable. One great step towards the improvement of society houses would be gained, if they were separated from the public-houses at which their meetings are usually held; and perhaps strikes might be less frequent if a rule were made never to enter into one, unless a decided majority,—say two-thirds,—of the whole trades, voted in favour of it; the votes to be taken by ballot.

You mentioned the workmen's Institute in the Euston-road, as likely to meet your correspondent's views, but I am afraid that no institution with which the employers have any connection is likely just now to be very popular amongst us.

If any new societies were formed, I would propose that their business should be carried on at coffee-houses until the members could afford to hire premises of their own. As your correspondent says, they might be at present simply houses of call to inquire for work, and afterwards benefit societies. I should say let them begin with a very low subscription, so that as many as possible might join them, and then it would be a question for the members as to what improvement might be made in the shape of benefit societies, and, perhaps, reading-rooms, libraries, &c. If successful, they might also form a basis for co-operative building societies on the plan which has, I believe, been found to answer well in other trades in the manufacturing districts in the north of England. A fund might also be raised to assist those who wished to do so to emigrate. One penny a week from every building workman in London would take several hundreds out in the course of the year.

I merely wish to make these few suggestions for others to think about, and improve upon: if you should think them worth publishing, I should like to hear the opinions of other workmen on the same subject. A BUILDING WORKMAN.

THE ARRANGEMENT OF STREET TELEGRAPHS.

PERMIT me to ask your practical readers whether we are so far behind our continental neighbours in the method of erecting street telegraphs, that it is necessary to disfigure the streets of London with a clumsy cable and tie-rods, in order to stretch two wires from house to house, when, in the Parisian capital, eight or ten wires are suspended at an enormous span, and without any unsightly apparatus?

It is an old saying that "they do these things better in France;" but it seems to me that we may here take another "Hint from Paris," by showing more regard to the picturesque aspect of our streets.

To artists and photographers these wires are already a source of perplexity; but, looking to the future, when every street, and almost every house will have its telegraph, shall we not have to look at the sky through the meshes of a vast iron network?

If it be easier to suspend a series of wires than two or three, then let us by all means have some limitation to the number of houses to which they are to be fixed, that they may *cross the streets in a body*, as over the Tuileries,—not one here, one there, according to each man's genius or caprice.

LEGION.

WAREHOUSE BUILDING.

PERMIT me to suggest, in addition to Mr. Hesketh's observations in the *Builder* of last week, that, between every two stacks of important warehouses hereafter to be erected, a thoroughly fire-proof construction should be built, some 15 feet or more in width: this I would build between party-walls, and arch over or groin the intermediate space to support paved floors, and suffer it to be used only as a warehouse of incombustible materials. The upper part might be formed into a large tank, constantly charged with water. Mains should be laid from this to each floor of the adjoining warehouses, with hose attached ready for immediate use; and I think that certain mains might be made self-acting by being plugged in convenient positions with some readily fusible material, or by some other ingenious contrivance.

Experience has shown that, where fires occur on a large scale, neither cast nor wrought iron constructions answer their intended purpose. If we want thoroughly fire-proof warehouses we must not admit in their construction either combustible or expansible materials, but we must build massively in brick, and resort to groins or vaults for bridging over our spaces; and although this mode of building might not be admissible for the whole of large stacks of warehouses, it could be usefully applied in part, and in the way I have indicated; and oppose a bar to the devouring element which it would be impossible to pass.

CHARLES HENMAN.

I VENTURE to suggest, for the consideration of practical men, that the first and most important point in the construction of a warehouse is the *complete isolation* of every floor in it, which I believe might be effected in the following manner,—namely, by placing the staircases *outside* of the building instead of within it, and either in the principal front, or elsewhere, as circumstances might determine.* This plan of removing the staircase from the interior would increase the space for stowage, and also do away with projections or breaks upon a floor, which are sometimes a hinderance in the piling of goods: the space thus gained would be nearly equivalent to that taken up on the site in front of the warehouse. Suppose a pile of warehouses to have a frontage of 40 feet by 60 feet in height; and, in the centre of each front of a series of such piles, a loophole, on each side of which there would be a wall projecting so far beyond it as to enclose a well-way 7 feet by 7 feet—the wall opposite each loophole having an opening in it the same size as the loophole, for the purpose of giving light and also equalizing the temperature of the air inside and out the well-way. Between these projecting well-ways—which may be called piers—the stairs might be placed, communicating with a landing or gallery upon the level of each floor: these galleries might be carried across the well-ways close to the side of the loophole, leaving a space of four or five feet for the passing of goods upwards to the different floors.

The construction of staircases and galleries outside of a warehouse would have the further advantage of affording facilities for extinguishing fires when breaking out in a particular floor, by giving the readiest access to taps attached to pipes communicating with tanks overhead, and also with a three-inch pipe hung under the joists of every floor. These pipes would have slits in their whole length (that of the room they were in), the aggregate sectional of which should be equal to that of the three-inch pipe, which should be of wrought-iron. In case of fire, the water, when turned on, would be dispersed amongst the goods on each side: there might also be a hose just outside the door, coiled up, and ready to be used at a moment's notice. H. LIDDELL.

FOUL WEED IN CISTERNS.

If "Paterfamilias" will put a temporary tightly-fitted deal division across his slate cistern in such a way that the water shall come into one compartment, and the pipe from the cistern to his water-closet shall be in the other; and if he will bend down the ball (as he will find he can manage) so that the water in the first part shall flow over the division into the second, and the ball shut off the supply before the two come on a level, he will discover that the W.C. half gets foul, and the company's half keeps clean. And if he will watch the surface of the water while some one draws up the handle of the closet, he will see bubbles of air arise such as his reasoning may lead him to believe always arise through the service pipe from the closet pan whenever the place is used. As vegetation cannot live without organic matter, he may perceive the origin of the loathsome weed in the cistern (I know it well, and have cleaned it out many a time before I found the cause and a remedy); and he may even think it probable that the use of such water for drinking purposes accounts, partially at least, for the spread of influenza, sore throat, &c., through a family (it is horrible to think of the use of sink and closet at the same time, but it is the fact in thousands of houses as now built); and perhaps, too, for some of the low states of health so characteristic of the present time.

If "Paterfamilias" and his friends be sensible men, and believe their own eyes, and do not like such gasogene for their children, they will have the divisions made permanent, by slate cemented in a slate cistern, or by deal covered with lead in a leaden one (the weed will grow in either alike if connected with a closet, but not else), and taking care that it be kept down an inch or two from the top of the cistern, and a little higher than the top of the waste-pipe, *which must be in the closet half*. The service to the sink for household use must, of course, be connected with the clean half, in which I promise no weed will grow. There may be also a small waste-pipe for cleaning out. A cover over an out-door cistern will greatly check its growth in the other. Who does not know the slimy look of the cisterns over closets seen from railway viaducts?

I can promise, also, that the expense of the alteration—and even, if necessary, of an extra small cistern,—will be saved in one year in the doctor's bill. I would dwell little on the usual pleasant communication between the closet, cistern, and the boiler of the kitchen range. I have two cisterns in my own house, so altered at a trifling cost. The ball-cocks work perfectly well in shutting off the water just below the edge of the division. The water drawn from the separated compartment is as bright as spring water.

You, sir, who have done so much for the sanitary condition of the poor, will know too well what I mean by alluding to the one water-butt, and the one place of convenience in a crowded court, and will not lightly smile at the suggestion of the consequences when an epidemic comes.

J. J. C.

* Although often before suggested, the repetition of the advice may be useful.—ED.

GREEN SLATE CISTERNS.

I AM only anxious to assist your correspondent and such of your readers as are in a similar predicament (and I have no doubt they are very numerous) with a very humble opinion.

I think he is mistaken in attributing the impurity of his cistern to the material of which it is composed, although *green* slate being slightly more porous than the *blue-black* may be a degree more likely to increase the evil. In his case I believe it to be mainly attributable to the water itself, in connection with the combined action of the sun's rays and the atmosphere upon it. It too frequently happens that cisterns are placed close under a slated or leaded roof, or a cover of a single deal board: and we are all familiar with the effect of the sun in such cases at this time of the year. The temperature of the water within is raised considerably, varying with its depth, the upper stratum, of course, being the warmest, and consequently the lightest. Now, as the water is drawn for use, the upper stratum, as it recedes, leaves a film of impurity on the sides, which almost imperceptibly increases, day by day; producing and encouraging the growth of vegetable matter. Then, when the daily supply from the main enters, it does so, probably, in a dribbling stream; and, being specifically heavier than the stale warm water within, falls directly to the bottom, and there remains; causing as little disturbance to the latter as possible, but gently raising the same super stratum to the top. This process continuing, vegetation will establish itself, and become more or less prolific, according to circumstances. The only available remedy for the evil in old cisterns that suggests itself is to cover the top and sides with some non-conducting material, and to keep the interior as nearly air-tight as possible.

In new houses the water should be stored in an underground tank. WM. WILDS.

WHO IS "OWNER" UNDER METROPOLITAN BUILDING ACT.

MOURILYAN and Another, Apps., LABALMONDIERE, Resp.—Jan. 16.—Court of Queen's Bench.

Metropolitan Building Act, 1855, secs. 3 and 73—Dangerous Structure—"Owner"—Commissioners.

By sect. 73 of the Metropolitan Building Act, 1855 (18 & 19 Vict., c. 122), if the owner or occupier of a dangerous structure fails to comply with the order of a justice for taking down, repairing, or otherwise securing the same, the commissioners may do what is necessary, and all expenses incurred by them shall be paid by the owner. By section 3, the term "'owner' shall apply to every person in possession or receipt either of the whole or of any part of the rents or profits of any land or tenement, or in the occupation of such land or tenement other than as a tenant from year to year, or for any less term, or as a tenant at will." The appellants, being seised in fee of a building used as a chapel, leased it for twenty-one years to J. N., who was then in possession of it:—Held, that J. N. was the "owner" within the meaning of the Act, and therefore an order upon the appellants for expenses incurred by the commissioners, under sect. 73, was bad.

Semble, an order can only be made upon the last statutable owner.

The case is fully reported in the *Jurist* of June 29, 1861. We need merely give the opinion of Chief Justice Cockburn:—I am of opinion that the order is wrong, and cannot be upheld, on the ground that the appellants were not owners of the chapel within the statute, and therefore are not liable for these expenses. The whole matter turns upon sects. 72 and 73 of stat. 18 & 19 Vict., c. 122. Sect. 72 provides, that when any building is in a dangerous state, and a certificate to that effect has been given by a surveyor, the Commissioners of Police of the metropolis shall cause the same to be shored up, or otherwise secured, and shall cause a notice in writing to be given "to the owner or occupier of such structure;" and by sect. 73, "if the owner or occupier to whom notice is given" fails to comply with the requisition thereof, the commissioners may make complaint before a justice of the peace, who may "order the owner, and on his default the occupier, of any such structure" to comply with the requisition of the notice; and, in default of obedience to the order, the commissioners may do what is necessary; and all expenses incurred by them shall be paid by the owner. The question is, what is the meaning of the term "owner" in the 72nd and 73rd sections? It is plain that by them the owner is made primarily liable, as distinguished from the occupier. If there is an owner, it is only on his default that the occupier can be called upon to do what is necessary, and to pay the expenses incurred by the commissioners. In this case the appellants are lessors of a person of the name of Neill for twenty-one years, and Neill takes as lessee for twenty-one years. Therefore the ground upon which the appeal must rest—and I think it is well founded—is, that Neill is the owner of the chapel, and not the appellants; and that is founded on the interpretation clause (sect. 3), which provides that the term "'owner' shall apply to every person in possession or receipt either of the whole or of any part of the rents or profits of any land or tenement, or in the occupation of such land or tenement other than as a tenant from year to year, or for any less term, or as a tenant at will." It is plain that Neill is the lessee of such tenement "other than as a tenant from year to year." Then he is, within the meaning of the statute, "owner." It is said that he is not, because he is not in occupation. If that was established, it may be that he would not be within that part of the interpretation clause. But, from the facts stated in the case, it appears that, the appellants having made a lease to him, he took possession, and there is nothing to show that he is not in occupation now. The case only states that he was not actually found on the premises. But, looking to the character of the premises, that they were used on Sundays when divine service was celebrated, and on other days were shut up; there is nothing to show that the lessee was not in occupation; the term "occupier" being understood with reference to the nature of the subject-matter. Therefore he is "owner" within sect. 3, with a greater interest than a tenant from year to year; and the order would be good if made against him, and I think it ought to have been made on him. It is not necessary to decide whether an order could be made on any other than the last owner in possession. By sect. 72, upon a notice being given that the structure is in a dangerous state, the owner is to do what is necessary. How does that apply to a person who has no right to go upon the premises? But it is not necessary to decide that question. This order is made on persons not primarily liable; and, therefore, is bad.

COMPENSATION CASE.

ISLE OF WIGHT.

THE War Department, having decided to erect three forts on the coast, in the parish of Freshwater, at the western extremity of the Isle of Wight, caused notices, under the Act 23 & 24 Vict. cap. 112, to be served upon Mr. G. H. Ward, the owner of the property, to obtain the sites.

At Warren Ledge, 56½ acres are required; at Headon Point, 14 acres; and at the Needles Point, 9 acres.

For the 56½ acres at Warren Ledge, the sum of 3,500*l.* has been agreed to be paid, thus valued:—

56½ acres of land, at 40*l.*	£2,260	0	0
Add 50 per cent. for severance and contingent building value.....	1,130	0	0
10 per cent. compulsory sale	339	0	0
Say, 3,500*l.*	£3,729	0	0

For the 9 acres required at the Needles Point no arrangement could be made; and a special jury was summoned for Friday, June 28, to meet at Yarmouth, when a verdict was given for 1,000*l.*,—being 165*l.* for the 9 acres of land taken, and 835*l.* for severance and damage to the rest of the estate, by the intrusion of another owner. The War Department offered 165*l.* for the land, but objected to any allowance for damage.

For the claimant, Mr. Driver, Mr. Charles Lee, and Mr. F. J. Clark, all of London, gave evidence: Mr. John Clutton, Mr. D. Norton, Mr. H. A. Hunt, all of London, and Mr. Owen, of Portsmouth, were present on behalf of the War Department; but they were not called by Mr. Overend, who attended for the Solicitor-General. Mr. Horatio Lloyd appeared as counsel for the claimant.

No agreement has as yet been come to for the land at Headon Point.

Books Received.

Church and Conventual Arrangement. Illustrated. By MACKENZIE E. C. WALCOTT, M.A., &c. London: Atchley & Co., Architectural and Engineering Publishers, Great Russell-street.

WITH the Rev. Mackenzie Walcott's excellent papers on Church and Conventual Arrangement, read at the Institute of Architects, the readers of the *Builder* are already familiar. These articles have here been extended; commented on and authenticated by numerous notes and references; and illustrated by a series of engraved plans and plates of the arrangements of churches in different countries and at successive periods, and of the conventual plans adopted by the various orders, and by a copious glossary of the more difficult words which occur in Anglo-Saxon and Mediæval charters and chronicles. The text is made easily accessible for reference by means of a good index; and the whole work forms a complete and most useful and valuable compendium of information on the subject of church and conventual arrangement. The volume is appropriately inscribed to the President and Council of the Royal Institute of British Architects.

The First Ten of a Series of Original Plans issued by the Cottage Improvement Society. 21, Bedford-row, Gray's Inn, London. 1861.

ALL who are interested in cottage building may invest half-a-crown with advantage in the purchase of this pamphlet. Besides plans for ten cottages, with estimated cost, a description and illustrations of Mr. Taylor's patent walls are given,—walls of concrete, with a facing of brick. Sections are wanted to make the plans generally available. Mr. R. P. Pope is the honorary architect of the Society; Mr. Charles Whitehead, of Maidstone, the honorary secretary.

VARIORUM.

"GOVERNMENT, Conduct, and Example. Three Lectures, addressed to Young Men. By William Dawbarn. Hall, Virtue, & Co., Paternoster-row." The subjects of these three lectures are each quite separate and distinct from the others. The first gives young men a pretty clear idea of what government and law are, from the rule of the sovereign down to the administration of the petty magistrate; and is illustrated from Blackstone and his Commentaries. The second relates to conduct in private, in business, and in public life. The third adduces examples of character, drawn from the life and writings of Sidney Smith. The matter forms an instructive and entertaining enough little volume.

Miscellanea.

INCREASING THE STRENGTH OF WROUGHT IRON AND STEEL.—Captain Blakely, R.A., of Holywood, county Down, Ireland, has patented an invention, which consists in bringing bars or hoops of steel or iron to a dull red heat, and in that state extending or pulling them out in the direction in which the increase of strength is required. He applies the pulling strain until they be cold, or nearly so. When cold, it is said they will be found to have increased in tensile strength. The extension may be effected in any ordinary way.

THE MONTGOMERY COUNTY SURVEYORSHIP.—Mr. Poundley has been appointed to this office at the recent sessions. A selection had been made from the candidates, the following gentlemen being considered the most eligible, namely,—Messrs. Poundley, Pickering, Parfitt, Edwards, Ritchie, and Slagg. Mr. Pickering and Mr. Parfitt were further selected by the chairman; who afterwards, however, proposed Mr. Poundley, as a resident in the county, and well acquainted with it. The appointment was unanimously agreed to.

PHOTOGRAPHY IN PARIS.—According to the recent Paris census, it appears there are rather more than 23,000 photographers in this city. Some of our contemporaries, in commenting on this, remark that one likeness-taker to every forty or fifty persons seems a large proportion, and shows that the people of Paris are particularly fond of seeing themselves reproduced upon canvas or paper. It does not follow, however, that the 23,000 photographers are all and always engaged in likeness-taking: far from it: photography is there followed as a branch of fine art; and for many beautiful photographs and stereographs, having nothing to do with the likenesses of the Parisians, we are indebted to the Paris photographers.

EXCURSION OF MASONS AND JOINERS.—The masons and joiners of Dundee, to the number of upwards of 150, have had an excursion trip to Edinburgh by special train. At Edinburgh they were received by a deputation of the Edinburgh masons. They were then conducted to the Masons' Hall, Lyon's Close, where addresses were delivered by Messrs. Colville and Herbert, two of the Edinburgh brethren, and suitable replies made by some of the excursionists. After this, they visited the different places of interest in the city, to all of which there was free admission. According to arrangement, in the Corn Exchange Hall, they were received by upwards of 800 masons and joiners belonging to Edinburgh and Leith, with their wives and sweethearts, and warmly welcomed. Arrangements had been made for their comfort and amusement.

ORNAMENTS FOR STOVES.—A correspondent, "M." suggests that in lieu of the tasteless ornaments for grates in summer often used, a "chimney-board" should be constructed, having a sliding framework both before and behind. This is for the purpose of displaying pictures in oil or water-colours (the first preferable on account of durability, as well as displaying brighter effects). These are to be selected with a view to a suitable variety, consistent with the changes in the weather, so constantly occurring in England. Ventilation might be preserved by piercing the top of the chimney-board with several good-sized holes.

ACCIDENT.—A serious accident took place on Monday, opposite the Marble Arch. A house recently taken by General Sir De Lacy Evans was undergoing repair; a scaffold, consisting of six stages, and 50 feet in height, having been erected in front of it. The old parapet had been removed, and a new and heavy cornice erected in its place. The materials consisted of brick, tiles, and cement. Whatever may have been the cause, shortly before eleven in the forenoon, the coping, without any preliminary warning, fell forward upon the scaffold, and carried all before it, the scaffold-poles snapping under the weight. A man named William Moore and his two sons were on it at the time, and were hurled down with its fragments. All the three sufferers are in a very precarious condition.

GAS.—The Swansea Gas Company have just reduced the price of gas from 5s. 10d. to 4s. per 1,000 cubic feet, compelled thereto by their Parliamentary Act.——The Worksop Gas Company have declared a dividend of 8 per cent. upon the old, and 7 per cent. per share upon the new share capital of the company. The directors have, within the past four years, reduced the price of gas from 6s. 8d. to 5s. per 1,000 cubic feet. The capital of the company is 14,700*l.*——The Jedburgh Gas Company recently declared a dividend of 7½ per cent. per annum.; and the Jedburgh Water Company a dividend of 10 per cent.——The Galashiels Gas Company have declared a dividend the same as last year, viz., 7½ per cent., which, it was stated, might have been more, had it not been for the expense of putting up a large new gasometer, and other works. They have also agreed to a reduction of the price of gas from 7s. 6d. to 6s. 5½d. (!) per 1,000 feet.——The Kirkcaldy Cheap Gas Committee has reported that gas could be sold by a new company at 3s. 9d., provided there was a consumption of 15,000,000 cubic feet. They do not think that the present company could afford to sell below 4s. 6d. per 1,000 feet, seeing that they must have spent on their works something like 15,500*l.*——An improved apparatus for carburetting or naphthalizing gas has been invented by Mr. A. L. Leveque, of Paris. The working of the improved apparatus is based on the principle of keeping the carburetting or naphthalizing hydro-carbon liquid at a constant level in the apparatus.

NORWICH SCHOOL OF ART.—The annual distribution of prizes to the pupils at this institution took place at the school, the mayor presiding. The mayor, in taking the chair, said that as a man who could not play a single note of music derived, nevertheless, very sensible pleasure from musical sounds, so he who could not handle a pencil might yet have a most vivid impression of the beauty of forms, the splendour of colours, and the elegance of taste; and all could understand the value of an institution like this. In a material and utilitarian age, in which the steam-engine threatened to puff away all ideas of beauty, and science languished and was dumb in the presence of the *auri sacra fames*, these schools fostered and kept alive, or, to speak more correctly, enkindled in the mind of youth a love of art,—drew forth, as it were, the latent spark,—fanning it into a gentle flame, refining the mind and improving the morals by drawing them from sordid pursuits. Their influence on manufactures was, he believed, so beneficial, that our manufacturers might reasonably hope to rival, if not excel, the foreigners in gracefulness of design; and, no doubt, there were some among the pupils who had souls above patterns, and who might become the founders of a school of English Raffaelles, Vandykes, and Claudes. The mayor then distributed the prizes. It was afterwards stated that the number of pupils in the central school during the last year had been upwards of 240, including twenty-eight schoolmasters and mistresses from the National and other charitable schools. The number of children, in the out-door schools, who were receiving instructions in drawing through the agency of the central school, during the past year, was 1,088.

PRESIDENT OF THE ROYAL SOCIETY. — We understand that the council intend to propose Col. Sabine to fill the office of president at the ensuing election.

THE GREAT EXHIBITION BUILDING.—A Bill is in preparation, promoted by Government, for exempting the building for the Exhibition of 1862 from the operations of the Metropolitan Building Act.

MR. W. COOKE'S VENTILATOR.—We have already mentioned the arrangement patented by Mr. Cooke, C.E.,—the application of a piece of wire gauze to the upper part of the window-frame, so that, when the sash is drawn down, the gauze forms a narrow wire blind at the top. To further a knowledge of this, Mr. Pepper has been lecturing very efficiently at the Hanover-square Rooms, treating of the science of ventilation generally.

FIREPROOF TIMBER.—Messrs. Jesse Rust & Co., of the Lambeth Glass Works, suggest the use of soluble silicate, or water-glass, for saturating wood in and about buildings required to be fireproof. This has been suggested before in the *Builder;* but, if we mistake not, it was not found to answer. Our present correspondents state, however, that they "find that the lightest and most inflammable wood will not blaze when saturated with the glass solution, the cost of which is very trifling." The lightest wood is the most porous and *may* be readily saturated; but it may probably be difficult to do so with woods of a less porous nature. In this case, however, the saturation might perhaps be effectible in a vacuum.

FALL IN OF A RAILWAY TUNNEL NEAR HADDON HALL.—An accident occurred on Tuesday evening before last, on a new line of railway which is being formed between the Rowsley terminus of the Manchester, Buxton, Matlock, and Midland Junction Railway, and the watering town of Buxton, by which five men and a horse were killed, and several others received serious injuries. A tunnel is being formed about 200 yards beyond the ancient Hall of Haddon, in Derbyshire; and between three and four o'clock on the Tuesday afternoon about seventeen men were at work in it, when the centres upon which the stone arch had been formed gave way, causing the massive stonework to fall down into the tunnel, and burying under it several of the workmen.

THE LABOUR QUESTION. — Two meetings of building-operatives have been held with the view of passing resolutions in opposition to the system of paying by the hour. We have every reason, however, to believe that the system is working very well in those yards where it has been adopted, and that more men apply for work than can be employed. We have received a letter signed "Thomas Connelly, secretary, on behalf of the Masons' Committee," reiterating their offer to leave the question in dispute to a committee of arbitration, to be selected by the council of the Institute of Architects. The letter asserts that if the masters persevere, the best men will leave London. If they are wise they will stop where they are, and, with good wages, apply themselves to their own advancement in the social scale.

APPOINTMENT OF A HEALTH COMMITTEE FOR NEWCASTLE.—At a recent meeting of the Newcastle town council, Alderman Bell moved, "That a public health committee be appointed to inquire into any circumstances affecting the sanitary condition of the town, and report thereon to the council." Dr. Robinson seconded the motion, and said that on more than one occasion he had tried in vain to bring the council to consider this matter. Whilst asserting, then, that Newcastle was not worse, in a sanitary point of view, than Edinburgh, Glasgow, and other large towns, he begged to deny all participation in the publication which had emanated from the officers of this corporation in reply to the strictures of the *Builder*. It was a most injudicious reply, and not calculated to throw any honour upon the town. Mr. Hamond supported the motion. He knew of owners of vast quantities of cottage property who cared only for one thing—to get the rents,—and nothing for the well-being of their tenants; whilst, in justice to others, he must say that they used every exertion to make their tenants comfortable. He also condemned the reply of Messrs. Bryson and Davison to the *Builder*. Mr. Harding supported the motion, and Alderman Hodgson deprecated it, because it was like endorsing what the *Builder* had said of Newcastle, which he asserted was utterly false. On being put from the chair, the resolution was carried *nem. con.;* and the following gentlemen were appointed a committee to carry out the object in view:—Dr. Headlam, Mr. Oliver, Dr. Robinson, Messrs. Newton, H. L. Pattinson, Bradley, and I. L. Bell.

THAMES EMBANKMENT.—Sir: It was Mr. Alfred Ainger, architect, who first proposed the intercepting sewer within a terrace embankment of the Thames; which design was afterwards enlarged, pictorially, by Mr. John Martin.—C.

THE WINNER OF THE QUEEN'S PRIZE (FOR SHOOTING) AT WIMBLEDON.—The South Middlesex Volunteers have furnished the winner of Her Majesty's prize, given through the National Rifle Association. Serjeant Jopling, the victor in question, is known to some of our readers as Mr. Joseph Jopling, of the New Water Colour Society. In the present exhibition of that society he has some very clever drawings.

INAUGURATION OF PAYMENT BY THE HOUR AND THE SATURDAY HALF-HOLIDAY.—On Saturday last Mr. William Higgs, of Lambeth, invited the whole of the workmen in his employ to his grounds at Stockwell, and provided them with refreshments. About 250 availed themselves of his kindness, and thoroughly enjoyed themselves with cricket, foot-ball, leapfrog, boating, &c. They left at dusk, after drinking his health, with three cheers for the half-holiday.

FIREPROOF BUILDINGS.—A subscriber writes,—On reading the just observations of the late lamented Mr. Braidwood against the use of cast-iron in the construction of warehouses, what objection could there be in forming the stancheons of plate-iron, strongly riveted together, and strengthened in parts by flanges formed of the same material? And the girders might be formed in a similar manner. These becoming red hot by a fire, water, coming in contact with them, would have no effect on the wrought-iron plates, and might prevent many a fatal accident.

THE INTELLECT AND VALOUR OF ENGLAND.—Under this title Mr. Thomas Jones Barker has painted a *conversazione*, introducing "Lord Dundonald offering his Invention for the Destruction of Cronstadt;" "Sir William Armstrong explaining the Construction of his Cannon;" "Mr. Cobden proposing to Lord Palmerston and the Chancellor of the Exchequer to arrange a Treaty of Commerce with France;" and "Sir David Brewster showing his Improvement of the Stereoscope." Besides the individuals named, it includes portraits more or less good of Disraeli, Faraday, Murchison, Dickens, and others. The composition is cleverly managed.

THE NAIL AND NEEDLE TRADE AT BROMSGROVE.—Dr. Greenhow, appointed by the Home Office to report on the state of mortality in England arising from diseases of the lungs, reports that of the adult male population of Bromsgrove 22·6 per cent. were employed, in 1851, in the manufacture of nails, and 7·4 per cent. in that of needles. Of the adult females 14·2 per cent. were engaged in nail-making, and 7·2 per cent. in needle-making. Young persons of both sexes are also largely employed. Dr. Greenhow thinks there is little doubt that the prevalence of pulmonary diseases here is chiefly attributable to circumstances connected with the staple occupation of the inhabitants. That the high rate of mortality from these diseases in Tardebigg is due to the employment of the inhabitants in needle-making be assumes from the fact that whilst, out of 109 deaths of men over twenty years of age from pulmonary diseases in Bromsgrove and Bellbroughton, only twenty-three were those of nail-makers; thirty-five out of seventy-four deaths of men of the same age from pulmonary diseases in Tardebigg were those of needle-makers.

TENDERS

For the erection and completion of two detached houses and stables, for the Bedford Freehold Building Company. Mr. John Usher, architect:—

Reynolds & Son	£3,276 0 6
Cunvin	3,268 15 6
Day & Son	3,050 9 0
Conquest	2,898 0 0

For alterations and repairs at Holy Trinity Church, Little Queen-street. Mr. W. F. Meakin, architect. Quantities supplied by Messrs. Hovenden & Heath:—

Piper	£1,106 0 0
Davis	1,104 0 0
Westacott	1,055 0 0
Conder	1,016 0 0
Colls	988 0 0
Jones	948 0 0

For rebuilding premises in London-street, and dwelling-house in Castle-meadow, Norwich, the property of Mrs. Riches. Mr. Barry, architect:—

Balls & Brooks	£1,830 0 0

For the completion of seven houses, at Hackney:—

Willis	£1,343 0 0
Toul	1,300 0 0
Tolley (accepted)	1,187 0 0

[Other tenders were received, but, being for *portions* only of the work, will not be published.]

For additions and alterations at 110 and 111, Tottenham-court-road, for Mr. Allison. Mr. Thomas Burton, architect:—

Sargeant	£376 0 0
Stimpson	367 0 0
Downs	340 0 0
Ashby & Sons	340 0 0
Bostell	340 0 0
Brass & Sons	325 0 0

For preliminary earthworks and boundary-walls, inclosing the site of a house for Mr. G. Gipps, St. Leonards. Mr. E. C. Robins, architect:—

Hughes	£267 17 0
Kenwood (accepted)	264 0 0

For a pair of villas, at Shooter's-hill. Mr. Padmore, architect:—

Rudkin	£1,850 0 0
Vaughan	1,540 0 0
Tongue	1,342 0 0

For building a police-station, with stables, &c., at Chesham, for the Bucks constabulary. Mr. Wilkinson architect:—

Conder	£1,534 0 0
Fassnidge	1,437 0 0
Cooper	1,395 0 0
Harriss (accepted)	1,392 0 0

Accepted for the erection of a villa residence, at Berston, for Mr. R. Kilburn. Mr. William Hill, architect:—

Hardwick (bricklayer)	£330 0 0
Pinder (carpenter and joiner)	369 14 0
Wilson (plumber and glazier)	90 0 0
Randles (plasterer)	79 10 0
Lawson (slater)	55 0 0
Nelson (painter)	16 18 0
Singleton & Tennant (ironwork)	27 0 0

For the erection of Suffolk Lodge, Isleworth, Middlesex, for Mr. Joseph Last. Mr. William Roe, architect:—

Eyles	£1,534 0 0
Burchett	1,526 0 0
Chamberlin (accepted)	1,488 0 0

For the alteration and enlargement of the Manchester School for the Deaf and Dumb; to gain increased dormitory space, and more efficient ventilation. Mr. James Redford, architect. With an allowance for old materials:—

Bowden, Edwards, & Foster	£1,209 0 0
Neill	1,140 0 0
Cochrane & Co.	1,115 0 0
Southerns (accepted)	1,080 0 0

For the erection of a workhouse, for the Stepney Union, at Bromley, Middlesex. Mr. Henry Jarvis, architect:—

Bennett	£32,077 0 0
Hardiman & Sandon	31,970 0 0
Myers	31,440 0 0
Downs	29,970 0 0
Perry	29,957 0 0
Ennor	29,573 0 0
Wilkins & Bottom	29,430 0 0
Blackburn	29,300 0 0
Watts	29,220 0 0
Hacks & Son	29,071 0 0
Rowe	29,033 0 0
Stap	28,962 0 0
Hill & Robinson	28,345 0 0
Wood	28,000 0 0
Sawyer	27,963 0 0
Palmer	27,548 0 0
Willson	27,220 0 0
Hart	26,869 0 0

For works in additional floor to school, St. Paul's Church, Bethnal-green. Mr. Benjamin White, architect. Quantities supplied:—

Hill, Keddell, & Robinson	£379 0 0
Wood, Brothers	367 0 0
Rivett	366 0 0
Wilson	348 10 0
Dudley	342 10 0

For taking down a house in Newgate-street, City, and erecting a hotel, for Mr. C. Mouflet. Mr. John M. Bryson, architect:—

	Without Party-walls.	With Party-walls.
Myers	£3,987 0 0	£4,320 0 0
Coleman & Son	3,647 0 0	4,027 0 0
Cowland	3,775 0 0	3,972 0 0
Pritchard & Sheldon	3,320 0 0	3,700 0 0
Conder	3,200 0 0	3,530 0 0

For the erection of Free Methodist Church, Upper Grange-road, Bermondsey. Messrs. Porters & Markham, architects. Quantities supplied:—

	Total.	Less, omitting Stone Staircases.
Hemmings	£2,860 0 0	£60 0 0
Wilson	2,486 0 0	55 0 0
Messrs. Coleman	2,420 0 0	58 0 0
Marsland & Son	2,400 0 0	60 0 0
Macers	2,399 0 0	60 0 0
Sharpington & Cole	2,397 0 0	52 0 0
Wilkins & Bottom	2,390 0 0	50 0 0
Tolley	2,387 0 0	70 0 0
Wills	2,337 0 0	60 0 0
Hill, Keddle, & Robinson	2,325 0 0	60 0 0
Hart	2,289 0 0	58 0 0
Sawyer	2,050 0 0	56 0 0
Wells	1,999 0 0	52 0 0
Warne	1,989 0 0	55 0 0

TO CORRESPONDENTS.

S. B. G.—W. J. G.—W. P. G.—E. W. O.—Inquirer (the new rates under that notice would not *begin* till 13th inst).—R. F. C.—R. J. Thomas.—O. P.—W. F.—G. P.—S. D.—A. B. C.—Master Painter (we cannot go into the question, but have little doubt the oil was bad).—J. W.—J. R.—J. B.—H. & B.—N. S. G. (apply to Mr. Weale, Holborn).—A. J. B.—G. P. (communication does not meet our views for publication).—F. S.—E. E. M.

Advertisements cannot be received for the current week's issue, later than **FIVE o'clock, p.m.** *on Thursday.*

BOURNE VALLEY POTTERY COMPANY,

SOLE MANUFACTURERS OF

The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be minutely examined at any time, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage.

Architects, Engineers, and Surveyors inserting CREEKE'S PATENT CAPPED DRAIN PIPES in their Specifications, will find they secure all the important advantages now generally considered so essential to constitute a perfect drain, at the lowest economical charge. They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

The SUPERIOR ADVANTAGES possessed by CREEKE'S PATENT CAPPED DRAIN PIPES over all others at present in use are—

1st.—They admit of inspection at the joints after they are laid, and before they are covered up.
2nd.—They admit of being readily opened and examined at any time, WITHOUT STOPPING THE ORDINARY FLOW OF DRAINAGE, or disturbing any part of the invert.
3rd.—The capacity of the drain is not lessened when under examination, as shown in the cross section.
4th.—They allow of any single pipe being taken out without displacing another.
5th.—They facilitate the introduction of junctions for secondary or house drains, without injury to any part of the main.
6th.—They give to every part of the joint the security of a SOCKET or FLANGE covering it.
7th.—They keep the side joints above the ordinary water level, and have a free and clear drainage course for seven-eighths of the depths of their diameters to the water line of the cap, which is secured by a flange, bedded with clay or other stopping material; consequently there is no liability of leakage. WHILST OTHER PATENT PIPES HAVE ONLY PLAIN (FLUSH-JOINTS AT ONE-HALF OF THEIR DIAMETERS, THEREBY ALLOWING THE LIQUID SEWAGE TO OOZE OUT AND PERCOLATE THROUGH EACH SIDE OF EVERY JOINT, COMPLETELY SATURATING THE GROUND AS SOON AS THE DRAIN IS ONLY HALF FULL.
8th.—They avoid the MULTIPLICITY OF JOINTS introduced by earlier patents, which have been found to seriously complicate the labour and ADD TO THE EXPENSE OF LAYING DOWN, as well as to increase the difficulty of manufacturing the various parts truly.
9th.—They are constructed on the principle of the ordinary Socket Pipe, RETAINING ITS SIMPLICITY, ITS RIGIDITY IN POSITION, AND FACILITY FOR BEING LAID DOWN, for which qualities it cannot be surpassed, the disregard of which has rendered many patented pipes, nominally of the same price, practically of very much larger cost to the contractor for extra labour before they have been finally fixed.
10th.—The apertures being made in every other joint only, they may be laid alternately, or at any interval, with the ordinary Socket Pipes.
11th.—They have also the further advantage of being specially adapted to provide a remedy for stoppages in any drains already laid with the ordinary Socket Pipes, as whenever a stoppage occurs in such drains, all that is required after the obstruction is removed, is to put a PAIR of CREEKE'S PATENT CAPPED DRAIN PIPES (as they are all 2-feet lengths) in the place of those broken, and you will then obtain a permanent facility for examination without having to break any pipes in future.

PRICES	4-in.	6-in.	9-in.	12-in.	15-in.	18-in. bore.
	5d.	7d.	1s. 1d.	1s. 10d.	3s.	4s. per foot.

*** *A Liberal Discount allowed to the Trade, and any quantity of Pipes delivered Free in London, and in Full Trucks at any Station having a siding on the South-Western Railway, or to the point of Junction with any other Line; and also Free Afloat, in Cargoes, in any Port or Town in England, where a Sea-going Vessel can reach.*

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A GOOD DRAWING-DOCK AND LANDING WHARF.

Illustrated Lists of all Articles required for Drainage purposes, Socket and Half-Socket Pipes, Bends, Junctions, &c. Invert Blocks, Water-Closet Basins and Traps, Flue Pipes, Fire-Bricks and Lumps, Terra Cotta Chimney Tops, Vases, Figures, Royal Arms, Rustic Garden Seats and Flower Pots, Garden Edging, &c. with full particulars and Prices, may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

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MANUFACTURER OF GLAZED STONEWARE DRAIN PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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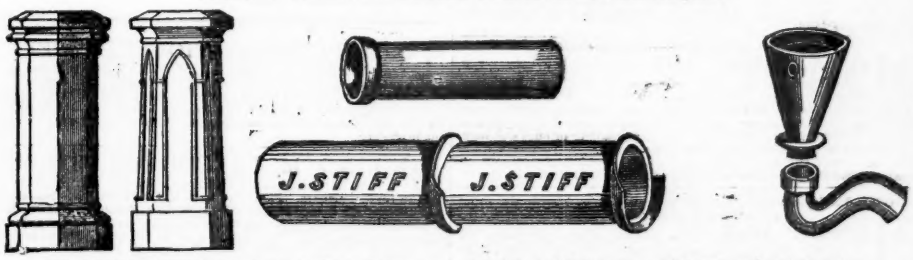
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

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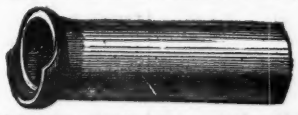

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PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

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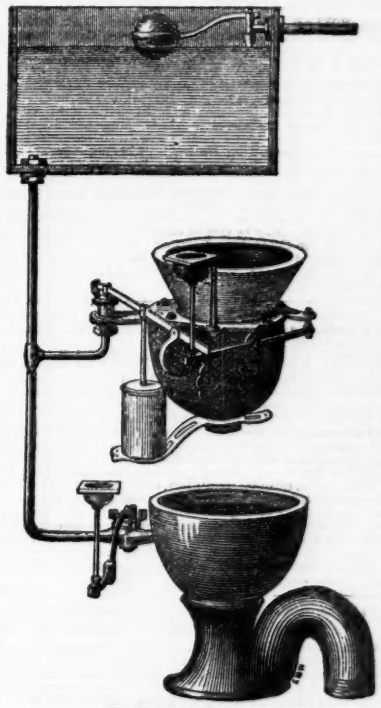
HENRY DOULTON & CO.

High-street, Lambeth, London.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.


Lambert's No. 1 Ball Valve.
No. 57. By this arrangement any number of closets may be supplied from one Cistern, and no Service-Box, Cranks, &c. are necessary.
No. 53, Servants' Closet.

T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

PATENT CAST-IRON KITCHEN SINKS, with TRAPS complete; manufactured by the Patentees, NEWTON, CHAMBERS, & CO. Thorncliffe Iron Works, near Sheffield.

SIZES. Long.	Wide.	Deep.	* Plain.	Galvanized.	Enamelled.
24 by	18 by	4	5s. 6d.	10s.	15s. each.
30 ,,	18 ,,	4	7s. 6d.	12s.	19s. ,,
36 ,,	18 ,,	4	8s. 6d.	14s.	22s. ,,
42 ,,	20 ,,	4½	10s. 6d.	18s.	27s. ,,
48 ,,	20 ,,	4½	12s. 0d.	21s.	31s. ,,

* These Sinks are covered with a Preparation which will prevent the possibility of them getting rusty.
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SALES BY AUCTION.

TO ENGINEERS, MILLWRIGHTS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the CANAL BRIDGE IRON WORKS, New North-road, Hoxton, on MONDAY, JULY 15th, at ELEVEN o'clock, in lots, the premises being let, the MACHINERY, TOOLS, and STOCK of an Engineer, Millwright, and Manufacturer of Jucke's Patent Smoke-consuming Furnace. One 12-inch self-acting slide-lathe, with 15 feet 6 inch bed; two 12-inch back geared slide-lathes, two foot-lathes, drilling-machine, vices and benches, stocks, taps, and dies, steel tools, highly-finished 6-horse power steam beam engine, two new oscillating donkey engines, bright shafting and pullies, Lever's cutting machine, cutting and punching machine, two forges, bellows, anvils, smiths' tools; cast, shear, and blister steel; rod, bar, and plate iron; several tons of new castings, a valuable collection of patterns, including patterns for Jucke's patent smoke-consuming furnace, in eight sizes; steam engine and wheel patterns, crab, scales and weights; gas fittings, electric telegraphic apparatus, and other effects. To be viewed on Saturday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

JUCKE'S PATENT SMOKE-CONSUMING FURNACES.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, JULY 15, 1861, at TWELVE o'clock, at the Canal Bridge Works, New North-road, eight New (JUCKE'S PATENT) SMOKE-CONSUMING FURNACES, varying from 21 feet to 4 feet surfaces, with gearing complete. These furnaces are not only thoroughly efficient for the consumption of smoke, but effect a large saving in the consumption of fuel.—To be viewed, and Catalogues had of Messrs. FULLER & HORSEY, Billiter-street, London, E C

FRENCH MINERAL TAR AND ASPHALTE.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, JULY 16, at TWELVE, at the Chymical Works, Bow Common, in lots, 20 casks MINERAL TAR, and 1,800 blocks ASPHALTE, ex Ganymede, Johnson, from Rouen: lying at Springall's Wharf, where the bulk may be viewed.—Catalogues may be had of Messrs. FULLER & HORSEY, Billiter-street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.—*Re* Moxon.

MESSRS. FULLER & HORSEY are instructed by the Inspectors to SELL by AUCTION, on TUESDAY, JULY 23rd, 1861, at ELEVEN o'clock, at the WORKS, near Wick-lane, Old Ford, about mid-distant from Victoria-park and Bow stations, Contractor's PLANT, UTENSILS, and STORES, 50 loads capital French timber (principally new), 3,000 feet 6-inch die square timber, 4,000 6-inch die square struts, 3 feet to 12 feet; 250 wheeling planks, 400 navvie and crowding barrows, 200 brick-boxes, 400 centres, 20 screws, 20 well-winches, 50 scaffold poles, 40 box horses 50 loads useful square timber, trestles, ladders, troughs, mortar-boards, gauging-boxes, 20 water-butts, 25 wrought-iron pumps; pile engine, with crab and monkey; 1,000 Staffordshire blue bricks, 5 tons new bar iron, 10 tons useful bar and rod iron, 20 new cast steel gratings, 2 tons hoop iron, 100 rubbish wheels, four grindstones, 200 glazed sanitary pipes, traps, bends, junctions, and syphons; fittings of smith's shop, forge bellows, anvil, smiths' tools, screw-jack, three double and single-purchase crabs, six pairs iron blocks and falls, chain slings, bars 200 feet leather bands, 30 tons Kentish ragstone, Gwynne's 6-inch delivery centrifugal pump, shafting, plummer blocks, &c. 300 cement and lime bags, and other effects.—To be viewed on MONDAY previous to the Sale, when catalogues may be had, at the Works of F. MAYNARD, Esq. 19, Bread-street, E.C.; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

MILL-WALL, POPLAR.—To Contractors, Builders, and Others.—Eight-horse power Portable Steam-Engine, Horses, Carts, Harness, &c. &c.

MR. SITGRAVE will SELL by AUCTION, on WEDNESDAY, JULY 17, at TWELVE, on the PREMISES, near the Tooke Arms Tavern, Millwall, Poplar, by direction of the Proprietor, to clear the premises, the IMPLEMENTS and STOCK of a Contractor: comprising a capital 8-horse power portable steam-engine with chain-pumps, &c.; 7 double and single-purchase crabs, 6 ditto timber jacks, 8 sets of iron blocks, 200 fathoms of ¾ and ½ inch chain, a 3-year old filly by Performer, fast bay mare five years old, 3 useful horses, 7 sets of harness, a 4-wheel chaise, 3 brick-carts, a light spring cart, 36 new navvie barrows, 10 cwt. of wrought nails and spikes, useful iron work, iron staircase, a large quantity of useful American timber and quartering, boards and planks, firewood, and a variety of other effects.—May be viewed one day prior to the sale, and catalogues had at the Centurian, Deptford; Surrey Canal Tavern, Rotherhithe; Angel, Islington; Mermaid, Hackney; Swan, Stratford; and of the Auctioneer, 59, Lime-street, E.C. or will be forwarded on application.

Fine Art Manufactures in Terra Cotta, admirably adapted for Pleasure-grounds, Lawns, Terraces, Architectural Decorations of Buildings, Conservatories, Halls, &c.

MESSRS. FOSTER have received instructions to SELL by AUCTION, at the SHOW ROOMS, 16, Great Marlborough-street, Regent-street, on TUESDAY, 16th inst. and following day, at ONE precisely, in consequence of the termination of the season, the STOCK of WORKS of ART in TERRA COTTA. In this preliminary announcement it will be sufficient, in calling the attention of noblemen and gentlemen to these charming in-door and out-door decorations, to mention the fact that these works, comprising life-size and cabinet figures and busts, pedestals and thermes, noble fountains, tazze, vases, consoles, jardiniers, and other articles in great variety, are all either beautiful copies from well-known antique examples, or original works of high artistic excellence, and which by the process of manufacture have been rendered almost indestructible. On view two days prior to the auction. Catalogues to be had at the Place of Sale, or of Messrs. FOSTER, 54, Pall-mall, who will forward the same on application.—N.B. The Suite of elegantly fitted and lantern-lighted Galleries to be Let.

NOTTING HILL.—Building Materials, Three Vans, Harness, &c.

MR. SWAIN is instructed to SELL by AUCTION, on the PREMISES, 13, Silver-street, Notting-hill, on MONDAY, the 15th day of JULY, at TWELVE for ONE o'clock, a few LOTs of BUILDING MATERIALS, VANS, HARNESS, &c.—May be viewed the day prior and morning of sale. Catalogues had on the Premises, and of the Auctioneer, the Lodge, Notting-hill, W.

TO BE SOLD, pursuant to an Order of the High Court of Chancery, made in a cause "Hocken v. Battley," with the approbation of the Vice-Chancellor Sir Richard Torin Kindersley, in one lot, by Mr. REYNOLDS, the person appointed by the said Judge, at the AUCTION MART, in the City of London, on WEDNESDAY, the 24th day of JULY, 1861, at ONE o'clock precisely, a substantially built PRIVATE RESIDENCE, situate in the Pownall-road, and at the corner of Marlborough-road, Queen's-road, Dalston, in the county of Middlesex. Adjoining are large and commodious Builder's Premises, with excellent Carpenter's Workshop and lofty drying shed under, cart shed, stable, and timber stage. The whole of the premises are at present unoccupied, and have a frontage of nearly 160 feet on the Pownall-road, and a depth of 230 feet to a frontage on Regent's-row, being the towing-path of Regent's-canal, of 70 feet.—Printed particulars and conditions of sale may be had (gratis) of G. R. BURN, Esq. Solicitor, 14, Great Carter-lane, Doctors'-commons; of Messrs. CROSLEY & BURN, Solicitors, 34, Lombard-street; at the Mart; at the "Lee Arms," Brownlow-road; "The Sisters," Pownall-road; and of the Auctioneer, 142, Bishopsgate-street Without, four doors from Sun-street, City.

BATTERSEA RISE, SURREY.—To Builders, Contractors, and Others.

MR. J. STEVENS has received instructions TO SELL by AUCTION, on the PREMISES, St. John's-road, Battersea Rise, on FRIDAY, 19th JULY, 1861, at TWELVE for ONE o'clock precisely, the GOODWILL of an Old-established BUSINESS of a GENERAL BUILDER and CONTRACTOR, with a long LEASE of the PREMISES, together with the STOCK IN TRADE and BUILDER'S PLANT: comprising deals, plank, scantling, a quantity of mahogany, glazed sashes, old lead, useful ironwork, nails, paint, glass, carpenters' benches and implements, builder's brick-cart, trucks, barrows, ladders, scaffold poles, putlogs and cords, horse, cart, and harness, a capital 4-wheel phaeton, and sundry useful articles.—May be viewed the day prior to sale; and catalogues obtained on the premises; at the Falcon, Wandsworth-road; and at the Auctioneer's Offices, Clapham-common, S.

WESTMINSTER.—Final Sale of the Stock in Trade of a Timber Merchant.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES NORWAY WHARF, Millbank-street, Westminster, on WEDNESDAY, JULY 17 (instead of FRIDAY, JULY 12, as previously advertised), at TEN for ELEVEN, in consequence of the premises being let, the final portion of the STOCK and EFFECTS, comprising whole Dantzic timber, yellow and white planks, deals and battens, prepared floor boards and battens, cut stuff, mahogany and wainscot planks, dry wide pine boards, laths, &c.; also the cart-horses, carts, stone trucks, timber waggons, ladders, barrows, and other effects.—Approved bills will be taken from purchasers of the stock above 25*l.*—May be viewed the day previous, and catalogues had on the premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

HAMPSTEAD.—Building Materials of a large Residence.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 19th, at TWELVE, in lots, all the excellent BUILDING MATERIALS and FITTINGS UP of a large detached Residence, situate at High-street, Hampstead (nearly opposite the Soldiers' Daughters' Home): comprising capital stock brickwork, stout timber in roofs, joists, and girders, 40 square floor-boards, 25 square slates, pantiles, plate glass and other sashes, modern doors, pair outer doors with ornamental glass panels, two satin-wood book-cases with silvered glass doors, blinds, cornices, modern stoves, kitchen range, gas cooking-stove, coppers, marble and other chimneypieces, ormolu gaseliers and other gas fittings, the glazed erection of vinery with tiled floor, 200 feet of garden edging, iron railing, stone paving, several tons of lead in gutters, cisterns, and pipes, and other useful materials and fittings.—May be viewed two days previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City, E.C.

PALACE ROAD, LAMBETH.—To Builders and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by the proprietor to SELL by AUCTION, at the WHARF adjoining the Saw Mills, Palace-road, Lambeth, on TUESDAY and WEDNESDAY, JULY 23 and 24, at TEN for ELEVEN, the following dry seasoned goods, viz.—2,500 white and yellow deals, 500 ditto planks, 1,300 ditto battens, 1,000 ditto spruce deals, 10,000 white and yellow floor-boards, 350 crown pipe staves, 10 planks of Italian walnut, 15 pieces of best Dantzic timber, and other goods.—May be viewed three days previous, and catalogues had on the Premises, or sent by post (free) on application to PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City.

SOHO-SQUARE.—Valuable Freehold Property, comprising the late Offices of the Metropolitan Board of Works, with large Plot of Building Ground in the rear, the whole occupying an important area of about 11,000 square feet.

PULLEN, HORNE, & EVERSFIELD have the honour to announce that they are instructed by the Metropolitan Board of Works to SELL by AUCTION, at the MART, on WEDNESDAY, AUGUST 7, at TWELVE, the valuable and important FREEHOLD PROPERTY, lately occupied as the Offices of the Metropolitan Board, and formerly of the Commissioners of Sewers, situate at the south-east corner of Soho-square, and comprising the capital and substantially-built residence, No. 1, Greek-street, containing nearly 40 rooms, including a spacious board-room, numerous offices for the clerks, engineers, architects, and other departments, large entrance-hall, and handsome stone staircase, having a commanding frontage to Soho-square and Greek-street of upwards of 90 feet; also a large and valuable PLOT of LAND in the rear, with frontage to Rose-street, presenting a most advantageous site for the erection of a factory, range of warehouses, or a public institution; the whole occupying an important area of about 11,000 square feet freehold.—May be viewed with cards, which, with particulars, may be had at the Offices of the Metropolitan Board of Works, Spring-gardens; at the Mart; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and No. 80, Fore-street, City, E.C.

BUILDING MATERIALS, No. 9, INNER TEMPLE LANE.

MESSRS. HAMMOND & EILOART are instructed by the Honourable Society of the Middle Temple, to SELL by AUCTION, on the PREMISES as above, on MONDAY, JULY 15, at TWELVE, the whole of the MATERIALS of the above large House.—On view on SATURDAY. Catalogues of the Auctioneers, 28, Chancery-lane.

GREEN LANES, STOKE NEWINGTON.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, opposite the New River Company's Engine-house, a short distance from the Manor House, on TUESDAY, JULY 16, at ONE o'clock, about 1,250,000 excellent new BRICKS, including malm paviors, pickings, washed and common stocks, half-and-halves, place and shuffs, a quantity of burs and bats, brickmaking plant, and the erection of stables, with pantile roof, &c. May be viewed the day preceding. Catalogues obtained of the Foreman, on the Premises; and of the Auctioneer, Tottenham.

SOUTH LANCASHIRE.—The Middleton Estate, about six miles from the City of Manchester.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the ROYAL EXCHANGE, Manchester, on WEDNESDAY, JULY 24, 1861, at TWO o'clock, the MIDDLETON ESTATE: comprising 830 acres, freehold, with land-tax redeemed, and divided into various convenient farms, and including the excellent family mansion known as Rhodes House, at present in the occupation of S. F. Armitage, Esq. whose lease expires in May, 1863. The Middleton Railway Station is close to the property, whereby Manchester may be reached in about a quarter of an hour. A large proportion of the property being in close proximity to the increasing town of Middleton, will, doubtless, let on chief rents for building purposes, there being a great demand for sites for mills, manufactories, and dwelling-houses in this populous locality. Coal is believed to exist under the whole of the property, and the vendor's interest therein, and in the coal under certain portions of the adjoining estates, will be included in the Sale. Also, in separate lots, various Freehold Dwelling-houses in the town of Middleton, including the Lodge, well adapted for the residence of the steward of the estate, with timber-yard, stabling, sheds, fixed steam-engine, &c. and the Hare and Hounds Inn; also the manors, or reputed manors, of Middleton and Thornham, with all their rights, privileges, and emoluments. Particulars may be had of Mr. CLARK, at the Estate Office, Middleton; of Messrs. LAKE & WALKER, 8, New-square, Lincoln's-inn, W.C.; of Messrs. PAINE & LAYTON, Gresham House, Old Broad-street, E.C.; of Messrs. SWIFT, WAGSTAFF, & BLENKINSOP, 32, Great George-street, Westminster, S.W.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

SOUTH LANCASHIRE.—The Thornham Estate, near the town of Middleton, and close to the Bluepits Junction Station, on the Lancashire and Yorkshire Railway.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the ROYAL EXCHANGE, Manchester, on WEDNESDAY, the 24th JULY, at TWO o'clock, the THORNHAM ESTATE: consisting of 1,794 acres freehold, with land-tax redeemed, and divided into numerous good farms. This property presents an opportunity for investment seldom to be met with. The coal under a portion has been let on lease for thirty years from July, 1847, at 500*l.* per annum. There are several sites eligible for the mansion of a gentleman engaged at any of the great manufacturing towns in the vicinity. The celebrated Tandle-hill, visible many miles round, forms part of this lot, and the bold Yorkshire hills and moors, including Blackstone-edge, are within sight. Manchester is about half an hour's journey from Bluepits Junction, and the important towns of Rochdale, Oldham, Heywood, Ashton-under-Lyne, and Bury are easily reached. Various parts of the property are eligible for the erection of manufacturing and other premises, the turnpike road from Oldham to Rochdale passing through. Several important chief rents have been recently created, and altogether the estate affords a combination of advantages rarely to be met with in the populous neighbourhood in which it is placed, there being various eligible positions for the erection of enjoyable residences, in a beautiful country, the prospect of an increase of rental from chief rents, sites appropriate for manufacturing premises, and a large tract of agricultural land, always commanding tenants at good rentals, increasing as the surrounding towns become larger and more populous.—Particulars may be had of Mr. CLARK, at the Estate-office, Middleton; of Messrs. LAKE & WALKER, 8, New-square, Lincoln's-inn, W.C.; of Messrs. PAINE & LAYTON, Gresham House, Old Broad-street, E.C.; of Messrs. SWIFT, WAGSTAFF, & BLENKINSOP, 32, Great George-street, Westminster, S.W.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

SOUTH LANCASHIRE.—The Boarshaw Estate, near the town of Middleton, and about six miles from the city of Manchester.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the ROYAL EXCHANGE, Manchester, on WEDNESDAY, JULY 24, at TWO o'clock, the BOARSHAW ESTATE: comprising 115 acres, freehold and landtax redeemed, divided into several occupations, and having good frontages, eligible for wharfage purposes, to the Rochdale Canal. This is a very compact property, and offers a capital opportunity for a safe and profitable investment. A lease of the coal under the estate was granted to Messrs. Roscow & Co. for fifty years from 1st March, 1854, at 300*l.* per annum. Particulars may be had of Mr. CLARK, at the Estate Office, Middleton; of Messrs. LAKE & WALKER, 8, New-square, Lincoln's-inn, W.C.; of Messrs. PAINE & LAYTON, Gresham House, Old Broad-street, E.C.; of Messrs. SWIFT, WAGSTAFF, & BLENKINSOP, 32, Great George-street, Westminster, S.W.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

Well-secured CHIEF RENTS, producing 2,245*l.* per annum.

MESSRS. DANIEL SMITH, SON, & OAKLEY, have received instructions to SELL by AUCTION, at the ROYAL EXCHANGE, Manchester, on WEDNESDAY, July 24, at TWO o'clock, in lots, well-secured CHIEF RENTS, producing 2,245*l.* per annum, arising out of the greater part of the property in the town of Middleton, and various houses, &c. on the Middleton, Thornham, and Boarshaw estates, originally granted on leases for terms of 999 years. The lots will vary in value from about 50*l.* to 250*l.* per annum, and offer opportunities for remunerative and secure investments.—Particulars may be had of Mr. CLARK, at the Estate Office, Middleton; of Messrs. LAKE & WALKER, 8, New-square, Lincoln's-inn, W.C.; of Messrs. PAINE & LAYTON, Gresham-house, Old Broad-street, E.C.; of Messrs. SWIFT, WAGSTAFF, & BLENKINSOP, 32, Great George-street, Westminster, S.W.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

MARBLE CHIMNEYPIECES, AND A LARGE PEDESTAL AND VASE.

MR. CHRISTOPHERSON WREN is instructed to SELL by AUCTION, at the PANTECHNICON, Queen's-road, Brighton, on WEDNESDAY, JULY 17, at TWO for THREE o'clock, about 143 Marble CHIMNEYPIECES, in handsomely carved statuary, veined Sicilian, black, St. Ann's, Verd de Verd, and other coloured marbles, in numerous patterns and modern designs; and about 25 appropriate Stoves. Purchasers will be allowed the use of packing-cases free of charge.—May be viewed; and catalognes obtained at the Place of Sale; or of Mr. CHRISTOPHERSON WREN, Auctioneer and Valuer, 2, Duke-street, Brighton.

RAILWAY ARCHES, CAMDEN TOWN.—To CARPENTERS, BUILDERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, as above, on MONDAY, JULY 15, 1,000 Planks Deals and Battens (dry cut stuff), 120 squares of Flooring, 4,000 feet Moulding, Match and Feather-edge Boards, 5,500 feet Quartering, 2,000 feet wide Pine Board, Die Squares, Slating, Battens, Pantile Laths, 24 new Four-panel Doors, Teut Poles, Handspikes, Six Marble Chimneypieces, &c.—Auction Offices, 2, Cardington-street, Hampstead-road.

PUBLIC OFFICES EXTENSION.—FOURTH SALE OF BUILDING MATERIALS.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES as under, on TUESDAY, JULY 23, at TWELVE for ONE precisely, the valuable BUILDING MATERIALS of Twenty-seven Houses, in Duke-street, Charles-street, and Upper Crown-street, Westminster: comprising about 1,500,000 capital stock bricks, plain tiles, sound timber in roofs, floors, &c.; wainscoting doors, sashes and frames, capital York and other paving, coping cills, sinks, &c.; several tons of lead in gutters, cisterns, pipes, flats, &c.; slate cisterns, iron boilers, large iron safe, shop-fronts, gas fittings, fixtures, and fittings.—On view day prior and morning of sale. Catalogues at the Office of Works, 12, Whitehall-place; of LAMBERT & HOLLOWAY, Esq. 7, Whitehall-yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross, S.W.

TO PROPRIETORS of HOUSE PROPERTY and LANDED ESTATES.—Mr. W. F. HAMMOND, Auctioneer and Surveyor, 3, Carey-street, opposite Lincoln's Inn Gateway, is preparing his next ESTATE SALE for the Mart, and offers to include any property on the terms specified in his printed lists, and if bought in will only charge two guineas per lot. Communications should be made at once.

GROUND in FENCHURCH STREET, known as "Langbourne Chambers," TO BE LET by TENDER for Building Purposes. Plans and form of Tender may be obtained at the Office of Mr. SAMUEL FISHER, Solicitor, Merchant Tailors' Hall, Threadneedle-street, London, where Tenders, under seal, are to be delivered on or before the 1st day of AUGUST next. The owners do not bind themselves to accept the highest or any Tender.

TO BE LET, on lease, a SAW-MILL, doing a good business, and offering facilities for its being greatly increased, the premises being sufficiently large to admit of other works being carried on. Satisfactory reasons given for disposal. The Freehold can be purchased if preferred.—For particulars, apply to Messrs. GIBBS & SON, 61, High-street, Poplar.

ROSSLYN PARK ESTATE, HAMPSTEAD.—LAND (within three minutes' walk of the Railway Station) TO BE LET, on Building Leases for 90 years, commanding most beautiful and extensive views towards Windsor and Highgate. Money advanced to respectable parties.—For particulars apply to Mr. RANDALL, Architect, 28, Great Winchester-street, City; or the Clerk of the Works on the Estate.

ALLOTMENT of FREEHOLD BUILDING SITES.—The Conservative Land Society, 33, Norfolk-street, Strand, W.C.—The SECOND ALLOTMENT for the present financial year is fixed for WEDNESDAY, the 17th of JULY, 1861, at the Offices, at NOON, on and after which day will be offered valuable Freehold Building Sites, on the following Estates:—No. 1. Woodbury Park, Tunbridge Wells (third portion); 2. Hertford Estate, No. 3.—Plans of the Estates will be sent by post, on receipt of seven stamps for each separate plan. Printed particulars of the land will be forwarded, with the Society's prospectus, free of charge.
CHARLES LEWIS GRUNEISEN, Secretary.

TO BRICK and TILE MAKERS, &c. TO BE LET, at Bishops' Stortford, ten minutes' walk from the Railway Station, thirty miles from London, about ONE ACRE of LAND, containing fine tile and brick earth, chalk, sand, and water. Will suit a hard-working poorish man, with small capital. Rent, 8*l.* per year.—Apply to Mr. HARLE, 48, Cross-street, Islington.

SIX UNFINISHED PRIVATE HOUSES FOR SALE, either together or separately, situate at Kentish Town. Sewers made; drains in; long terms; low ground-rent and separate leases. Money advanced to complete, if required.—Mr. PROUDFOOT, 24, John-street, Bedford-row.

TO INVENTORS. — THE GENERAL PATENT COMPANY (LIMITED), 71, Fleet-street, London, E.C. undertakes to obtain PATENTS for INVENTIONS and REGISTRATIONS for DESIGNS at most moderate charges. Unusual facilities afforded to Inventors. Printed information gratis on application to ROBERT M. LATHAM, Secretary.

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